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Textile bulletin

APRIL • 1960

Mr. Cannon Replies To Mr. Kearns
(Page 85)

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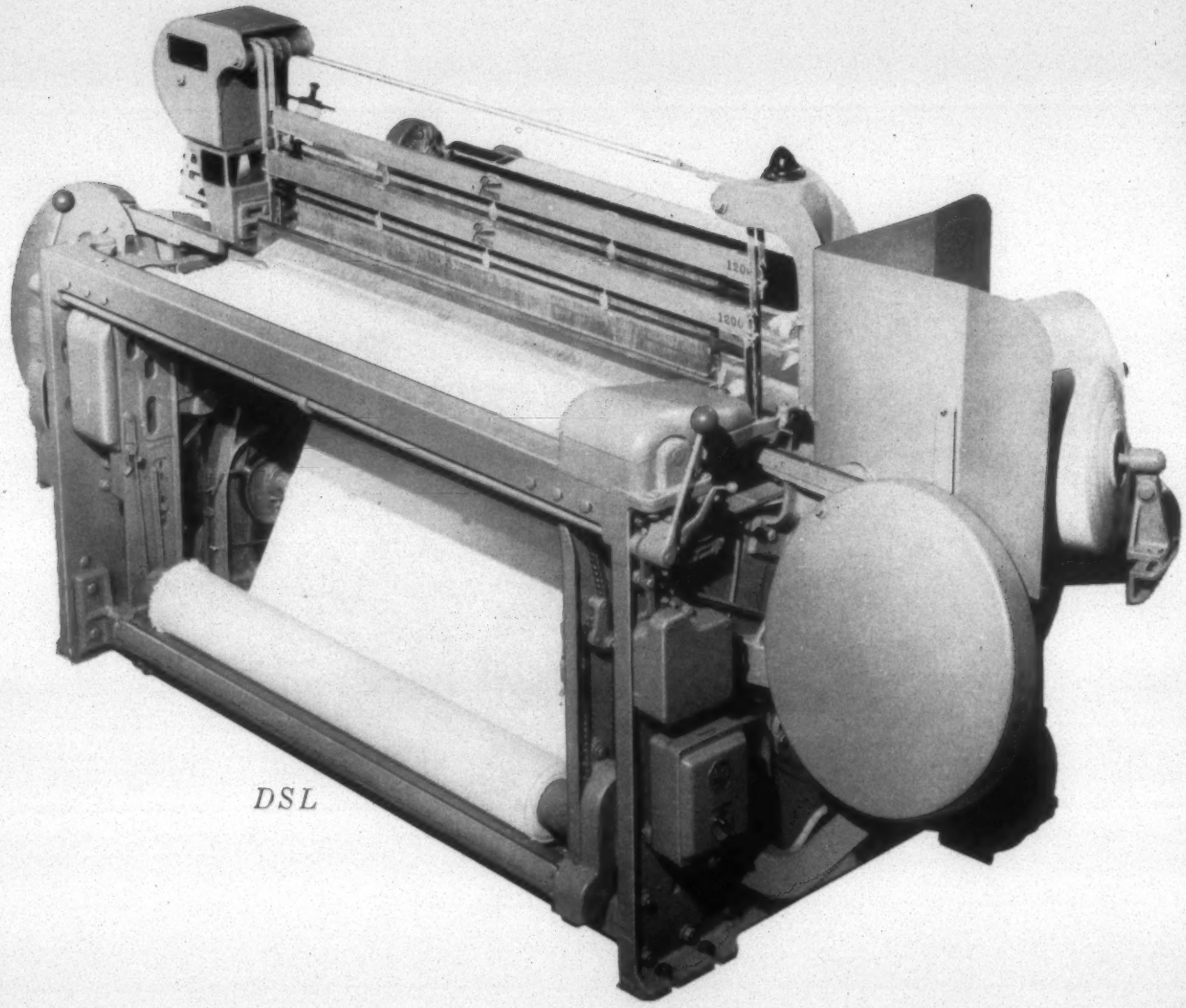

DSL

Newest
member
in our
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Looms

DRAPER CORPORATION

HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

ATMA Parade of Progress

Velvet surfacing operation on Sonoco cones

The Velvet cone surface — another Sonoco "first"!

Sonoco created the Velvet Surface to overcome the problems of winding fine cotton and synthetic yarns. This surface takes the primary winds without slippage —and, in delivery, the yarn feeds off without sloughing.

Trouble-free cone winding and delivery depends on control of yarn tension. In all cone winding, tension at the traverse extremes pulls yarn toward the cone center. Only cone surfaces which restrain this tension can provide the foundation for a well formed package. When the cone and the cone surface are selected for a specific yarn, a big step is taken toward better and faster production. Sonoco can supply you with the right combination.

The Sonoco Velvet Surface cone is typical of the dependable products manufactured by a fully integrated company with 60 years' experience in creating and producing all types of textile paper carriers. Only Sonoco, in its field, provides the knowledge, skill and capacity to meet the ever-changing techniques of the textile industry. Let Sonoco experience help you!

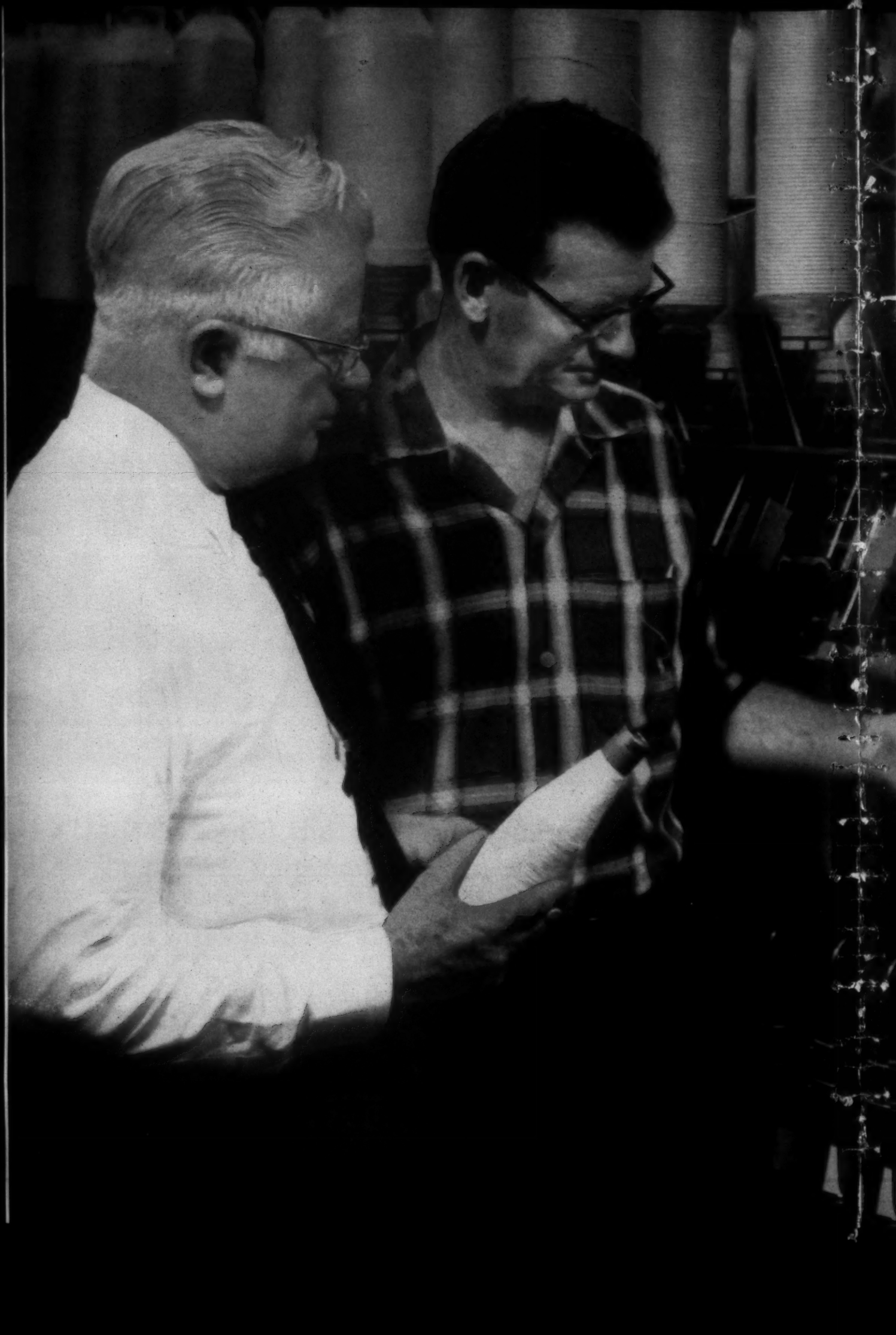
SONOCO

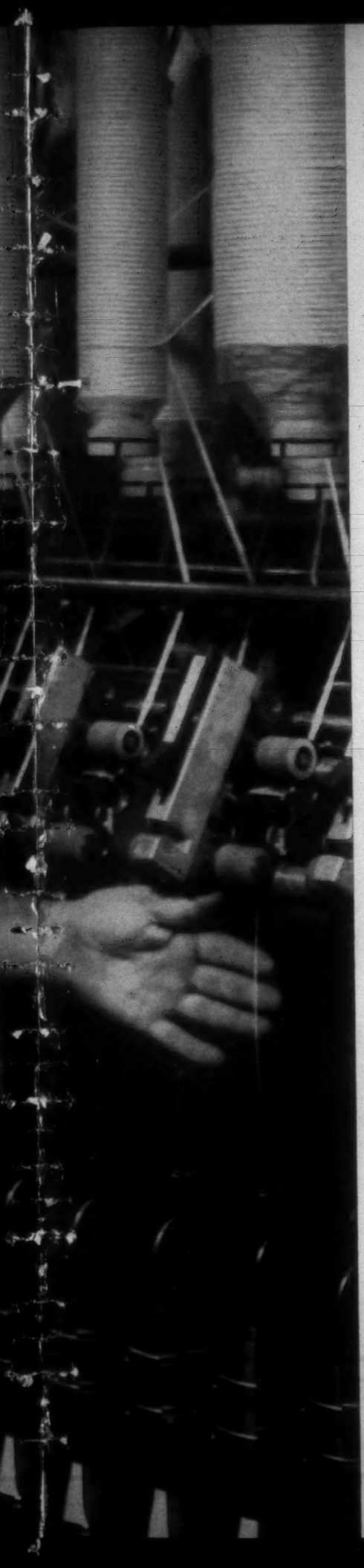
Products for Textiles

SONOCO PRODUCTS COMPANY

ATMA
American Textile Machinery Exhibition - International
Booth Nos. 82 and 83
May 23-27, 1960

Main Office—Hartsville, S. C. • Mystic, Conn. • Akron, Ind. • Lowell, Mass. • Phillipsburg, N. J. • Longview, Texas • Philadelphia, Pa. • La Puente, Cal. • Fremont, Cal. • Atlanta, Ga. • Granby, Quebec • Brantford, Ontario • Mexico, D. F.





James Moore (right), overseer of spinning at Blair Mills, Belton, South Carolina, checks yarn quality with Armstrong district manager J. V. Ashley.

Accotex Cots can help you get high production of quality yarn

Maximum production of quality yarn: that's the key to profitable spinning and the goal of every spinning room overseer.

Armstrong Accotex Cots can help you get this kind of performance by minimizing such sources of trouble and expense as front roll laps, eyebrows, and yarn irregularities. The broad line of Accotex Roll Covers includes materials specially compounded to combat these common spinning problems.

Many mills have found, for example, that a switch to Accotex J-490 Cots . . . or one of the new Accotex anti-static compounds . . . will reduce front roll lapping to a minimum.

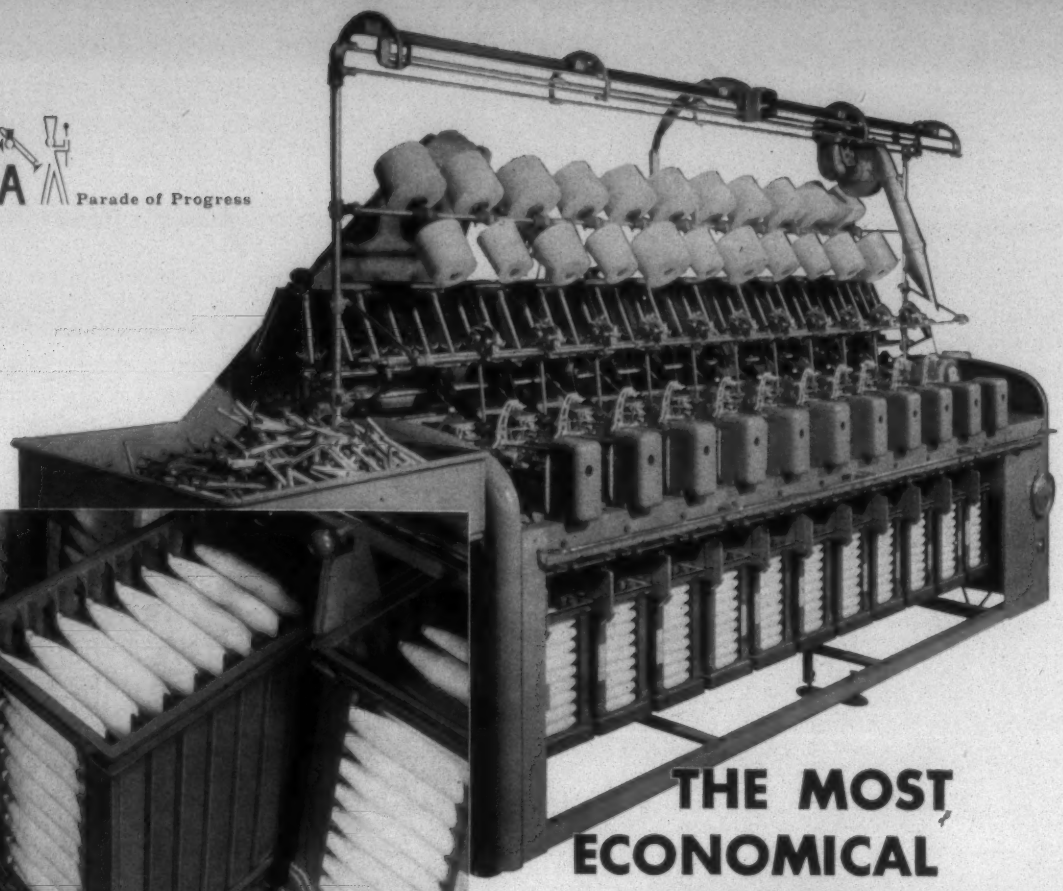
Where eyebrowing is excessive on your roving and spinning frames, Accotex NC-762 Cots . . . one of the new anti-static materials . . . will help to control it. And on some drafting systems, new, softer Accotex compounds are being used to improve break strength and reduce yarn irregularities.

Whatever your frame or fiber, there's an Accotex Cot that will help you turn out strong, uniform yarn. Your Armstrong man will be glad to work with you in selecting the cot best suited to your requirements. Call him or write to Armstrong Cork Company, Industrial Division, 6504 Davis Avenue, Lancaster, Pennsylvania.

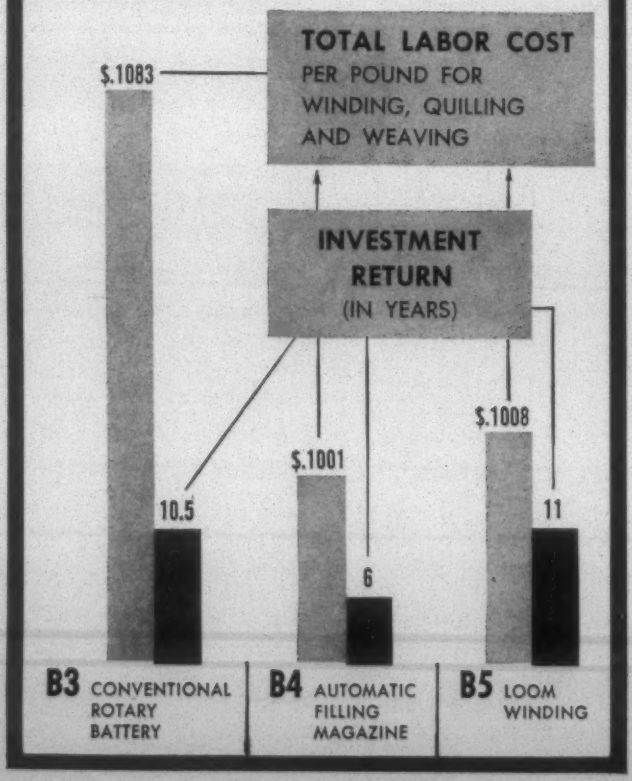
Armstrong ACCOTEX COTS

1860–1960 Beginning our second century of progress

ATMA Parade of Progress



ONE OF MANY EXAMPLES: 15's average count, using 4.5 lbs. cone



THE MOST ECONOMICAL FILLING PREPARATION NOW AVAILABLE... WITH

Schlafhorst SERVOLOOM AUTOCOPSER

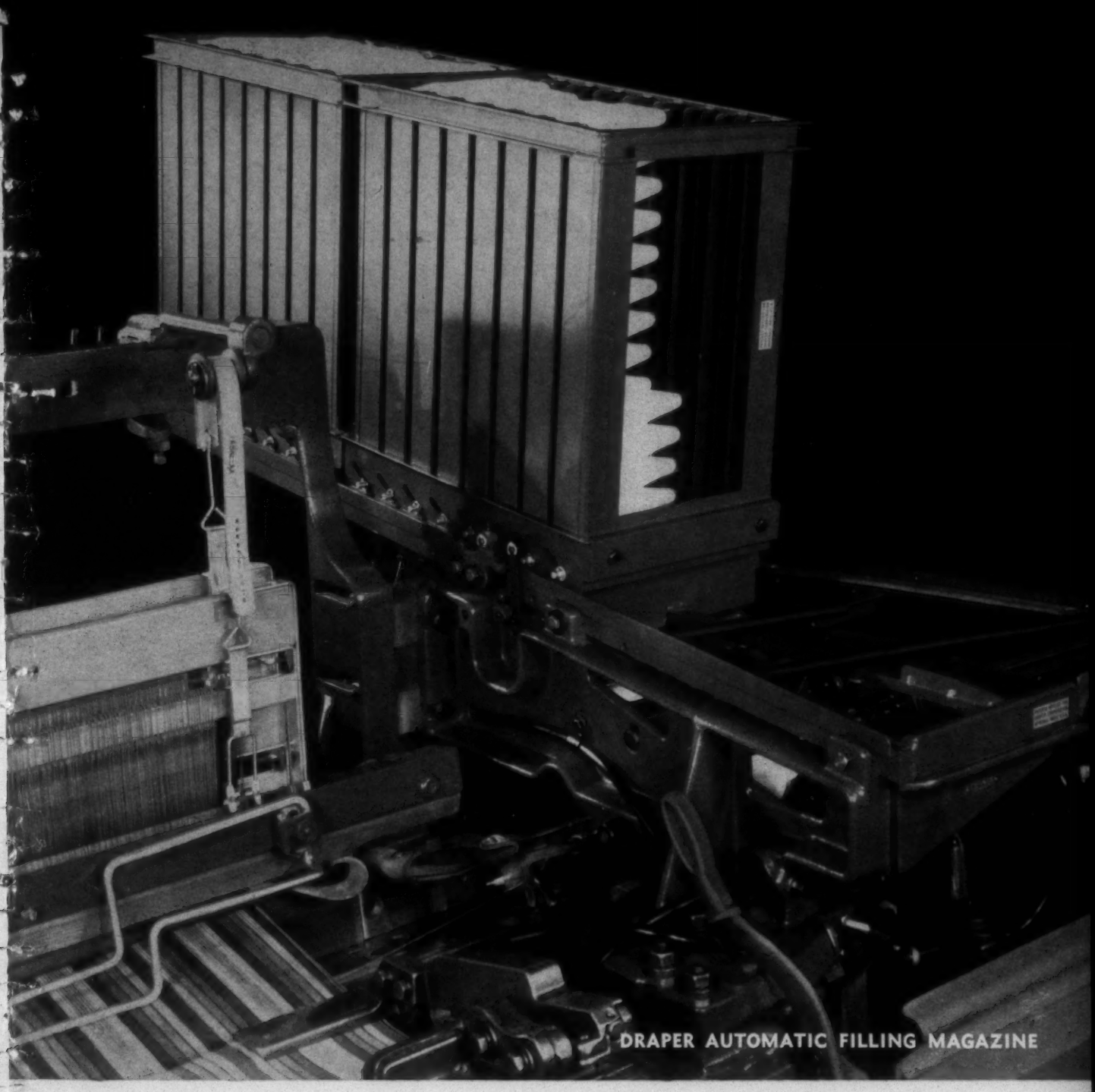
LOADING DRAPER AUTOMATIC FILLING MAGAZINE

Call your nearest Terrell sales engineer for more examples and information, and investigate this new approach to mill automation at the International Textile Exposition.

THE

TERRELL

MACHINE COMPANY, INCORPORATED
CHARLOTTE, N. C., U. S. A.



INCREASE *loom performance*

IMPROVE *cloth quality*

REDUCE *mill costs*

The Draper Automatic Filling Magazine, *brings new automation to your weave room* . . . reduces filling handling to a minimum.

Lower labor costs, more continuous loom operation, cleaner yarns and fewer cloth seconds are direct advantages gained from the use of this magazine.

Your Draper representative will be glad to show you the many benefits that can be obtained from the Draper Automatic Filling Magazine.

DRAPER CORPORATION

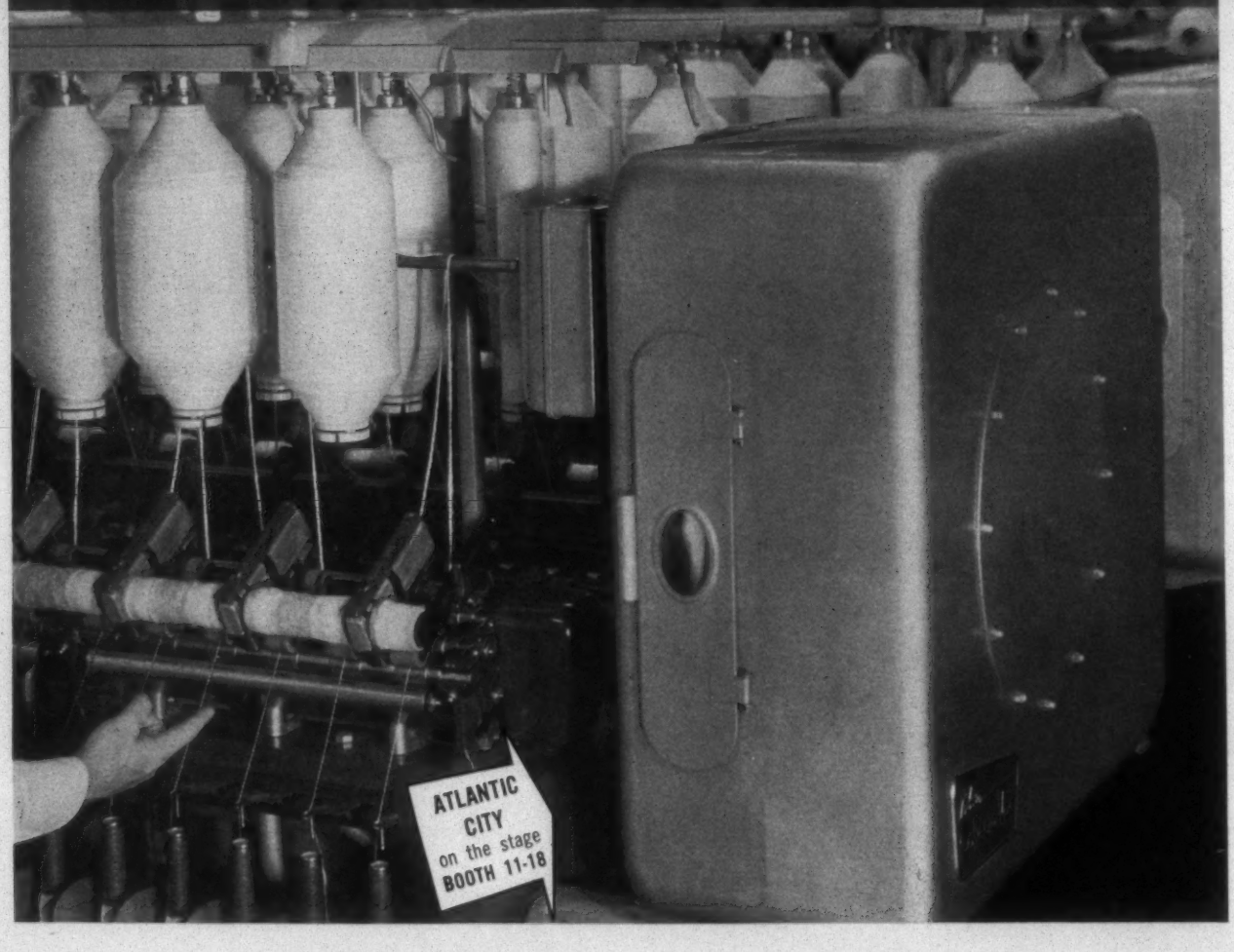
HOPEDALE, MASS.

ATLANTA, GA. GREENSBORO, N.C. SPARTANBURG, S.C.

ATMA Parade of Progress...

You get additional operating profits with Built-in Economy Features

of BAHNSON COLLECTO-VAC



You can plan for additional operating profits with the extra quality design features of Bahnson's Collecto-Vac for collecting broken ends, lint and fly. Its anodized aluminum flutes neither crack nor warp, thus eliminating replacement costs . . . its rugged all-steel collection box provides durable service indefinitely . . . its scroll type fan gives maximum air handling, helps air distribution in the room by dispersing motor alley heat . . . it has quick, easy access for maintenance.

Collecto-Vac's superior construction enables it to reduce ends down more efficiently, to minimize slubs and gouts, to keep frames and room cleaner. Ask any mill man who has Bahnson Collecto-Vac. Fill in the coupon below for free informative bulletin.

Clip coupon to letterhead. Mail today for Free Illustrated Bulletin 30A.

Name_____

Bahnson

AIR-O-MATION

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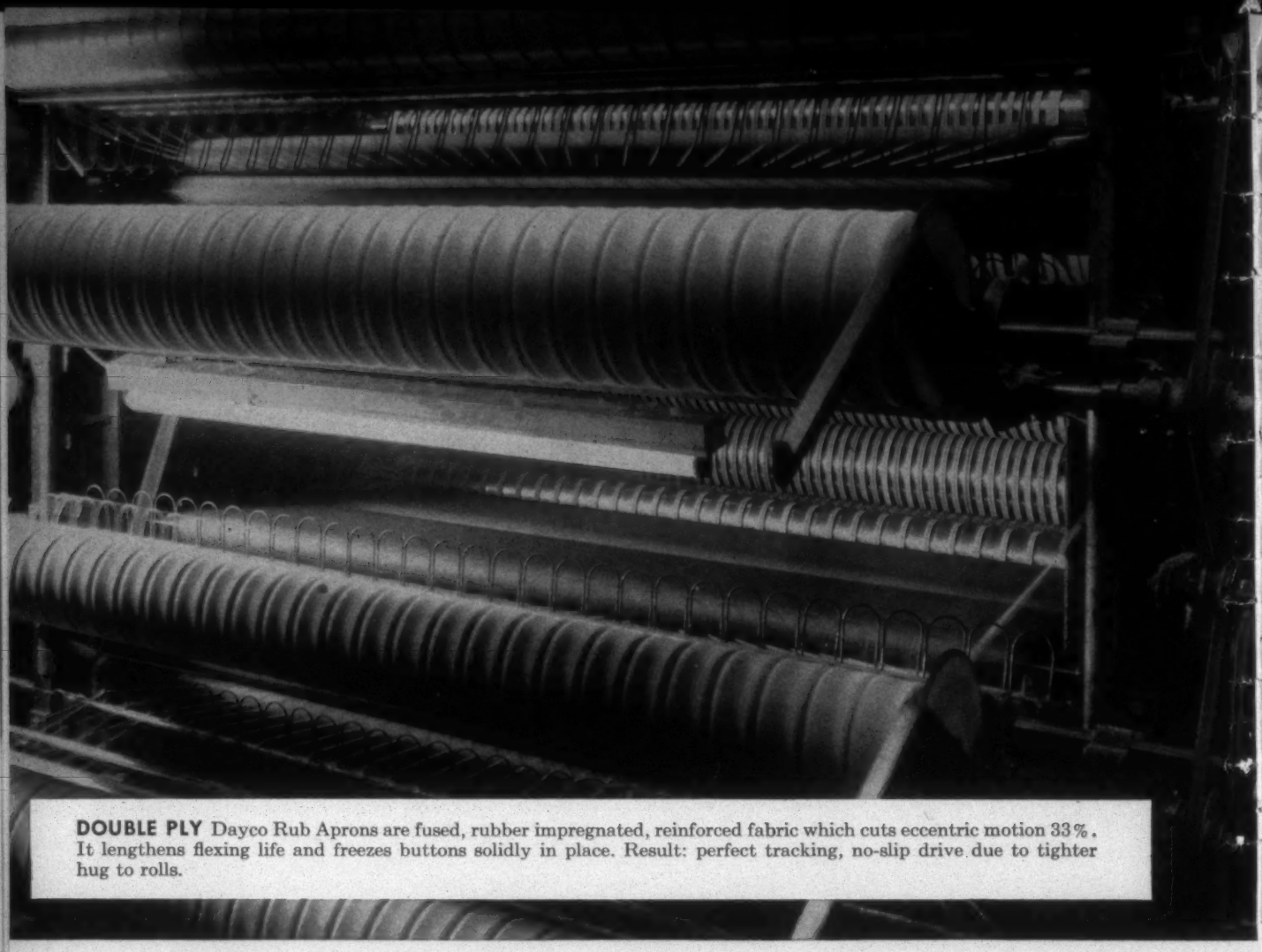
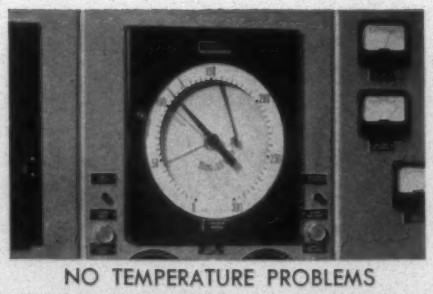


DOUBLE PLY Dayco Rub Aprons are fused, rubber impregnated, reinforced fabric which cuts eccentric motion 33%. It lengthens flexing life and freezes buttons solidly in place. Result: perfect tracking, no-slip drive due to tighter hug to rolls.

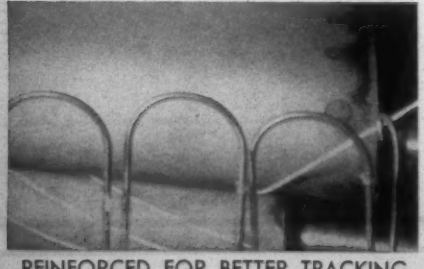
DELIVERS 33% MORE YARN UNIFORMITY.....

IMMUNE TO EMULSION OILS

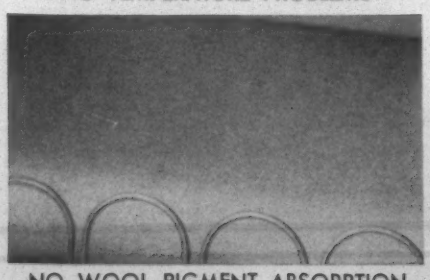


NO TEMPERATURE PROBLEMS

NO HUMIDITY PROBLEMS



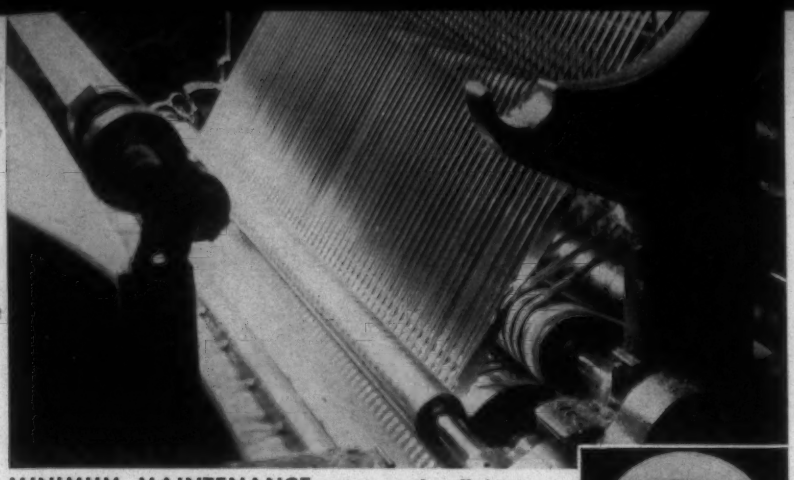
REINFORCED FOR BETTER TRACKING



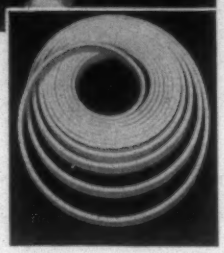
NO WOOL PIGMENT ABSORPTION

NO GLAZING, NO SLICKING

NO SWELL with Dayco Rub Aprons. Their special formulated texture keeps them free of emulsion oils that cause growths and rubbing surface breakdowns on ordinary aprons. Temperature and humidity changes have no effect on the Dayco Rub Apron. Color pigments from dyed wool are not absorbed . . . slicking and glazing are reduced to a negligible minimum.



MINIMUM MAINTENANCE, top card efficiency, better web uniformity are yours with Dayco Endless Condenser Tapes. Precision compounding prevents stretch and cracking, reduces take-ups and groove-jumping. Oil deterioration, static are eliminated. The permanent square edge permits close-tolerance nesting for cleaner cuts and minimum stealing. They're longer lasting—yet original cost is lower.



HIGHEST COEFFICIENT OF FRICTION of any apron on the market. That is the important difference in this remarkable Dayco Rub Apron. It means proper yarn condensing and more high quality yarn per machine. Because the surface keeps renewing itself, you also get longer life with heavy-duty Dayco Rub Aprons.

. . . PLUS MORE YARN PER CARD

with DAYCO RUB APRONS

Here with Dayco Rub Aprons is a range of special built-in textures answering all the individual rub needs of any mill. Each has the highest coefficient of friction of any apron available today. Each is so designed and formulated that it maintains its condensing efficiency unchanged through its lifetime of use.

The unique advanced 2-ply construction minimizes need for adjustments, delivers longer trouble-free service, requires less maintenance, no downtime.

Look for more yarn per card and 33% greater yarn uniformity with cards equipped with Dayco Rub Aprons—thanks to Dayton's exclusive surface texture that stays good from the first day of use without change.

Ask your Dayco Representative to set up a test. Phone or write the Dayton Rubber Co., Textile Division, 401 South Carolina National Bank Bldg., Greenville, South Carolina.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving.

OVERSEAS PLANT: THE DAYTON RUBBER CO., LTD., DUNDEE, SCOTLAND.

Reasons behind the fast-growing trend to DAYCO SYNTHETIC CONDENSER TAPES

THE SUCCESS of Dayco synthetics in cots and aprons, loop pickers and lug straps is also effecting a big change in the use of conventional condenser tapes. "Leather men are weather men" they say because the expert can look at a piece of leather and tell you whether the animal from which it came had a dry year. This legend is the clue to the growing acceptance of Dayco synthetic condenser tapes, bringing as they do, an end to the constant humidity and weather problem.

But the Dayco synthetic condenser tapes are earning a great deal more attention for other good and practical reasons. One is the fact that Dayton, for instance, can now make them to closer tolerances. This means a remarkable precision fit in the steel roller grooves.

The Dayton Endless Condenser Tape besides possessing very close-tolerance, non-permanent stretch has a permanent square edge to eliminate groove-jumping, twisting and turn-over.

These Dayco condenser tapes have ended oiling maintenance problems and costs and the nuisance of oil deterioration.

The reason Dayton Endless Condenser Tapes last longer, yet cost less, is a small consideration compared to the really big reason for the switch to Dayco tapes. Top card efficiency, better web uniformity, cleaner cutting, minimum stealing are the real reasons.

THE ULTIMATE IN SIMPLICITY

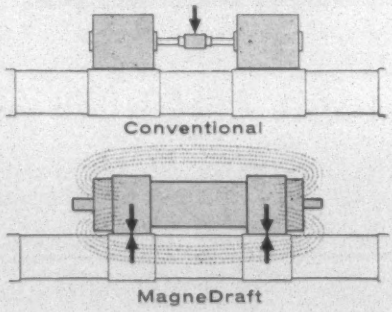
SACO-LOWELL'S MagneDraft

MagneDraft*, using the forces of magnetic attraction to produce required roll pressures, gives the cleanest, most efficient operation of any spinning drafting element ever developed. *Completely eliminated are saddles, stirrups, levers, hooks, springs, and weights* used with conventional drafting systems. Most important — MagneDraft requires *no lubrication* (oil or grease) in the drafting zone. Maintenance costs are reduced to an absolute minimum due to the few component parts. A unique method of supporting the front top roll makes piecing-up around the end a very quick and simple operation.

MagneDraft installations in leading mills are producing yarns of superior quality with a substantial reduction in drafting gear wear and power consumption. Get all the facts from your nearest Saco-Lowell sales office.

*U.S. Pat. No. 2,686,940

WORN NECKS ON STEEL ROLLS ELIMINATED



The mutual attraction of the magnetic forces gives a "squeezing together" pressure at the nips, instead of the "pushing down" between the cots of the conventionally weighted top roll. This greatly reduces wear in the entire drafting element, eliminating worn necks on steel rolls.

See this machinery at the A.T.M.A. Exhibition, Atlantic City, May 23-27. Saco-Lowell Booth 482.

THE STANDARD OF QUALITY AND PERFORMANCE Since 1813

Saco-Lowell Textile Machinery Division

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the Soromine® Family

of Textile Softeners

. . . Economical — Easy-To-Apply . . .

SOROMINE AL softens fabrics and thread, improves sewing and napping qualities, gives finished goods a full, rich hand. The lubricity it imparts minimizes needle heating and fiber cutting. *A white amphoteric softener, with a special lubricant, in smooth paste form.*

SOROMINE AT lubricates and softens bleached, dyed, and printed textiles of animal, cellulosic, and synthetic fibers–including fabrics treated with thermoplastic or thermosetting resins. *A white amphoteric softener in creamy paste form, which does not yellow in normal use.*

SOROMINE CS softens and lubricates cotton, viscose, acetate, wool, nylon, Orlon* polyacrylic fiber, Dacron* polyester fiber, and silk in all forms, (stock, yarn, and fabrics of all types) — also useful with thermoplastic and thermosetting resins — highly resistant to yellowing — and has minimum effect on the light fastness of colors. *A white cationic softener in smooth paste form.*

Get acquainted with the SOROMINE softeners.
Samples and application data on request.

*E. I. du Pont de Nemours & Company, Inc.

gaf gdc ANTARA

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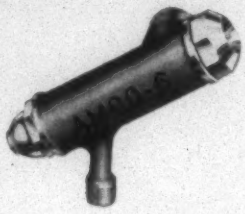
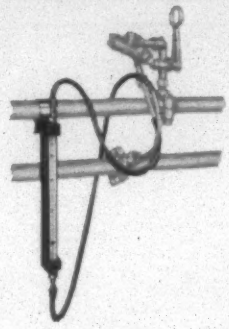
SOROMINE, manufactured by General Aniline & Film Corp., is sold outside the United States and Canada under the trade name "Blandofen" by distributors all over the world.

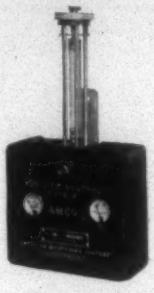
These Amco Air Conditioning Devices are designed for close control of atmospheric conditions within your mill



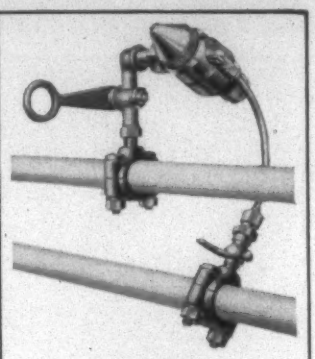
No. 6 Atomizer



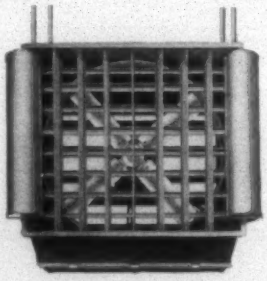
Atometer



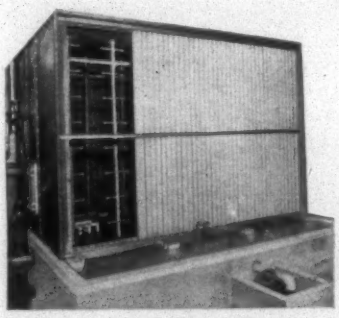
Humidity Control



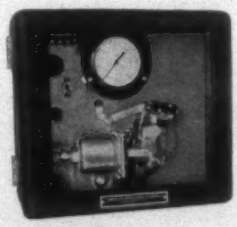
Aeromizer



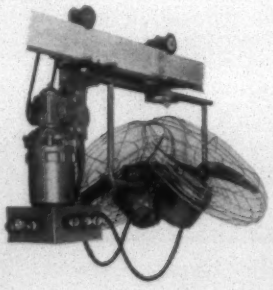
Evaporative Cooling Unit



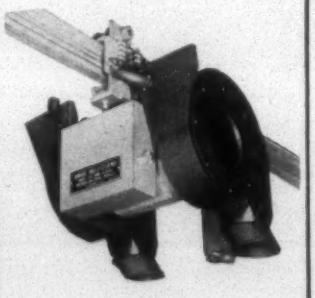
Air Washer



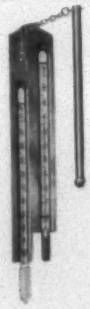
Modulating Interrupter



Ceiling Cleaner



Loom Cleaner



Sling Psychrometer

Blow-Thru Diaphragm Valve

See them at the TEXTILE SHOW at ATLANTIC CITY

May 23-27 • Booths 51-56

Amco Air Conditioning Devices are *quality* textile mill equipment . . . backed by a company with more than 70 years experience in solving textile air treatment problems. You can always rely on Amco to give you dependable advice and an expert installation best suited to your needs.

AMCO

Since 1888

Air Conditioning Equipment — Textile Specialties

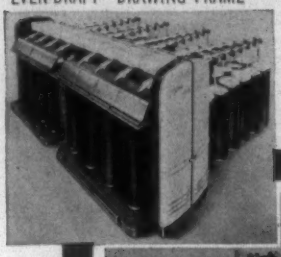
American Moistening Company, Cleveland, North Carolina

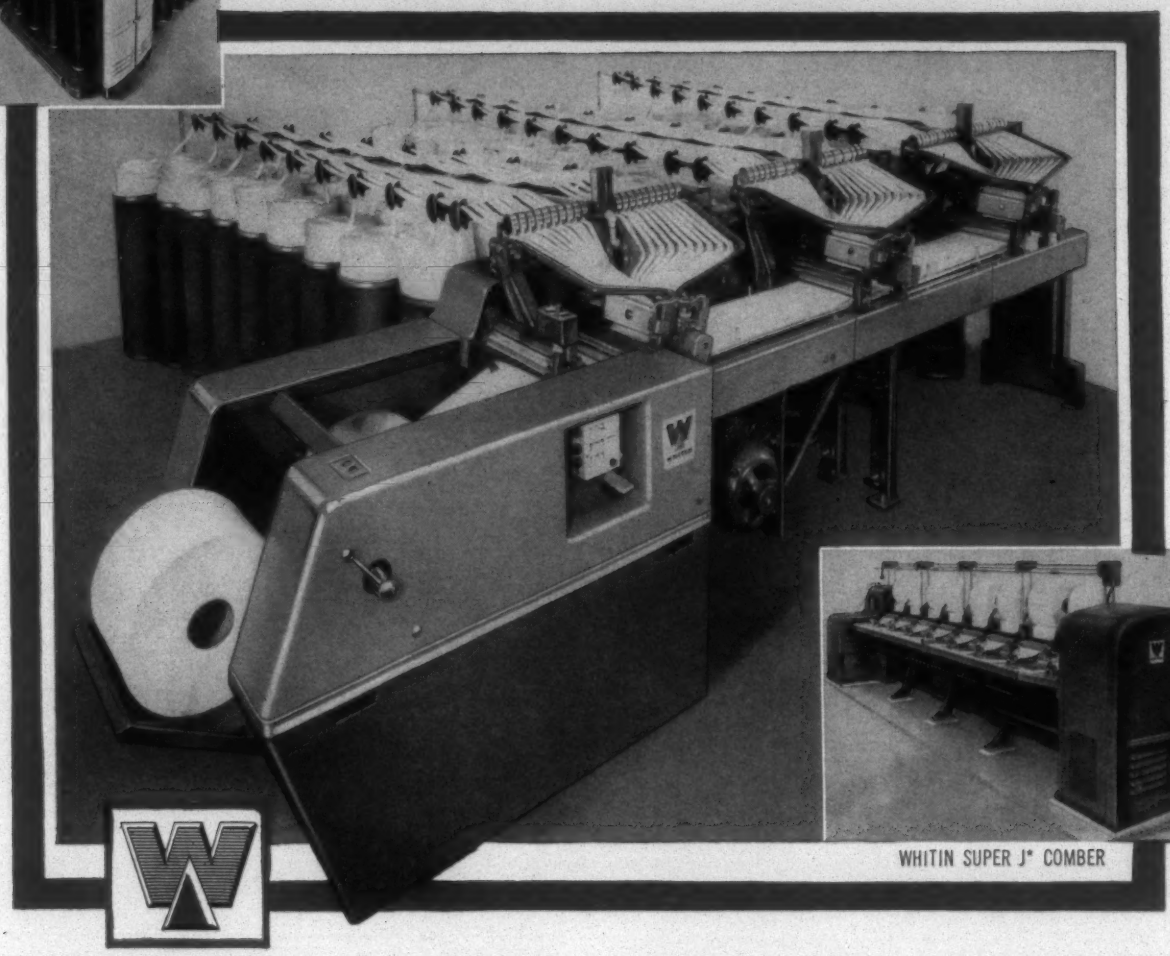
Branches: Atlanta, Ga., Providence, R. I., Toronto, Ont.

The WHITIN SUPER J's New Running Mate-

the SUPER LAP machine

WHITIN
EVEN-DRAFT* DRAWING FRAME





WHITIN SUPER J* COMBER

The new Whitin Super Lap machine heralds a major advance in cotton processing. Running-mate to the famous Super J Comber, the Super Lap and the new Whitin Super Lap Preparation Method* hold promise of material savings in the making of combed yarns thru improving yarn quality, increasing Comber production and reducing Comber waste.

The Super Lap was specifically designed by Whitin Research engineers to implement a new concept in preparing Comber laps — the Whitin Super Lap Preparation Method — in which card sliver is first processed on the Even-Draft Drawing and then formed into laps by the Super Lap. This sequence of operations results in the superior lap in which all hooked and bent fibers have been straightened and made parallel — then on to the Super J Comber.

*(Pat. applied for)

Through this new method Whitin offers you these competitive advantages:

- **Lap production 500 lbs./hr. — 35 lb. laps from 60-end can feed.**
- **Up to 3% reduction in noils.**
- **Lap weights up to 1000 gr./yd. permit increased Comber production. (20-25%).**
- **Straightened and parallel fibers in lap afford easier combing.**
- **Recommended total draft 24-32.**
- **Improved yarn quality.**

For complete information see Whitin representative or write us direct.

WHITIN MACHINE WORKS

*TRADE MARK

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

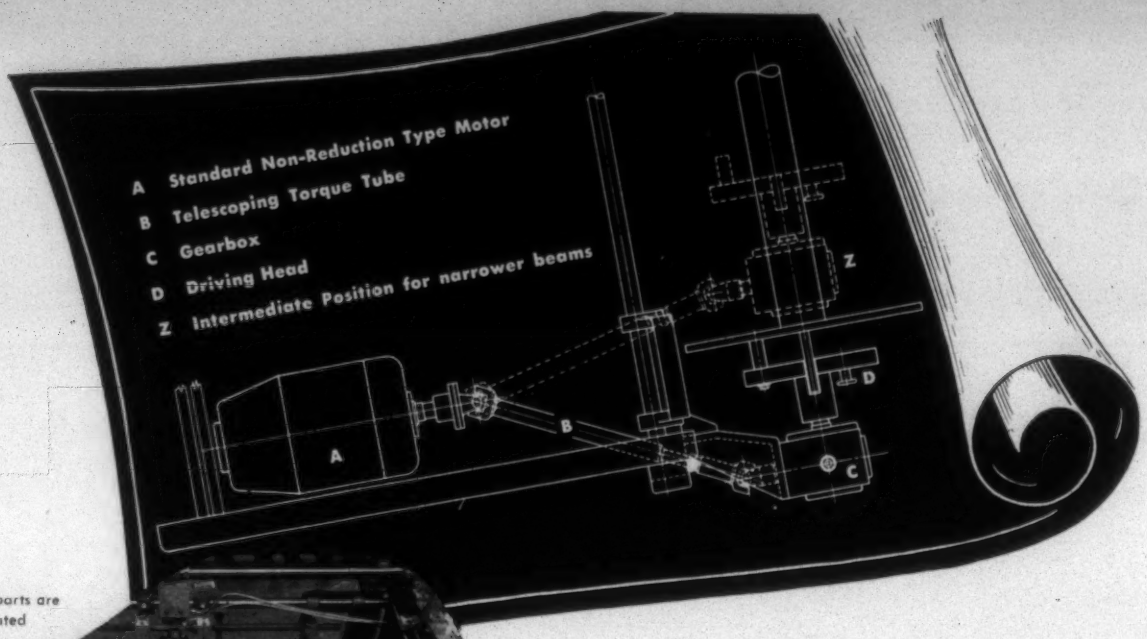
Fifty years ago, American Viscose Corporation became the first commercially successful rayon producer in the United States. While the yarn was brittle and weak by today's standards, and only 362,544 pounds of it were made the first year, the venture was a success from the start. We'd like to pause for a few moments at this—the beginning of our 50th Anniversary year—to name a few highlights in our progress which may be of special concern to you. The growth of Avisco rayon has outrun all expectations. There is now 8 times as much rayon used in blends as any other man-made fiber. And of this amount, Avisco rayon's share is well over 1000 times what we produced in our first year. Much of rayon's success can be credited to extensive research pin-pointed to engineer rayon and acetate fibers to fit specific end uses. **AVISCO ACETATE** was first used in apparel . . . crepe dresses, lingerie, linings. More recently, it has found a place in the home furnishings field especially for curtains and draperies. In 1959, American Viscose developed a new acetate fiber especially for draperies. Fiber 25, as it is known, gives additional bulk, a firmer, crisper hand, an iridescent luster and makes possible unusual textures. **AVICRON®** rayon, a latent crimped rayon filament yarn, has the unusual property, when relaxed, of drawing into a tighter curl with each washing. This phenomenon opens up a whole new world of texture possibilities. Avicron is now used principally for tufted bedspreads and accent rugs. **COTRON**[1] fabrics are made of cotton and Avisco rayon. The Avisco rayon in the blend adds to the cotton a luxury of hand and drape, and a clarity and brightness of color. **AVRON*** high strength rayon was announced only a few months ago, but is already being used extensively in apparel and home furnishings. 100% Avron or Avron in blends has a luxury hand and such strength as to make possible fine-count fabrics which will accept resin finishes. Avron is a major breakthrough in fibers, has important advantages, and is highly promotable. **SUPER L*** carpet rayon, the new Avisco smooth carpet fiber, is distinguished for its long wear and soil resistance. It can be blended with wool, nylon or acrylics. **COLORSPUN*** solution dyed fibers are popular for apparel, home furnishings, automotive and industrial products. American Viscose produces a complete line of Colorspun rayon filament yarns and staple fiber and Colorspun acetate filament yarns. **THE AVISCO INTEGRITY TAG** is awarded to fabrics made with Avisco rayon and acetate fibers, which, by virture of their construction, fiber content, and performance, meet the quality control standards of the Avisco Integrity Program. It would be interesting to know what is ahead. What we can tell you, without benefit of crystal ball, is that our Research & Development people are working on many new fibers, as yet unnamed, which will be announced during this anniversary year.

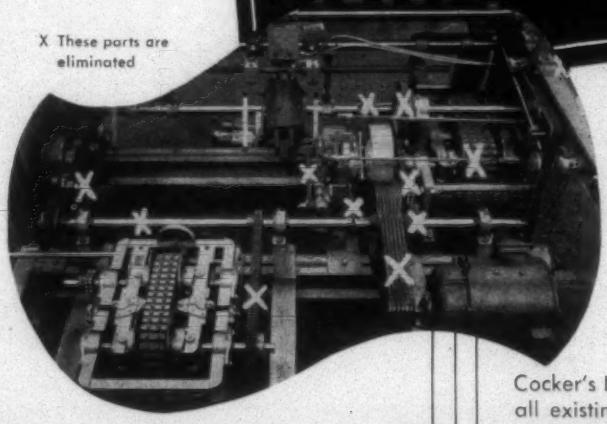
AVISCO®

AVISCO®

Rayon • Acetate • Cellophane

[1] TM AVC for fabrics made of cotton and Avisco rayon
*Trademark of American Viscose Corporation
AMERICAN VISCOSE CORPORATION, 350 Fifth Avenue, New York 1, New York





X These parts are eliminated

The World's Finest Slasher Head Drive

Better Simpler Less Expensive

Cocker's New Slasher Gear Head Drive is a tremendous improvement over all existing drives. It eliminates troublesome belts, chains, and sprockets. These are replaced with a telescoping torque-tube drive* with two universal joints which transmits positive power to a gear reducer which drives the beam driving head direct. This is the same type drive which is used in the finest automobiles and on expensive machine tools.

LOWER INITIAL COST—LESS MAINTENANCE This new design permits the use of a basic 5 HP-DC motor of simplest design and eliminates the present expensive gear boxes, thus reducing initial cost materially. Simplified driving mechanism operates smoothly with very little maintenance. Only five places to lubricate. Working parts are easily accessible. The same drive will be used on all type Cocker Slashers, thus permitting "off-the-shelf" replacement parts service.

PROJECTING SPINDLES ELIMINATED Can safely run beams of any width without protruding spindles and with no sprockets or chains to slide in and out.

VIRTUALLY ELIMINATES NOISE

NEW CLEAN MODERN DESIGN

All other features of the superb Cocker head end remain the same as before —rugged construction, complete and accurate push button controls, full instrumentation, new, fast and simple beam doffing. Also available with Cocker's patented Beam Drive which provides constant adjustable tension regardless of speed or load. Speeds up to 150 ypm and 20% to 25% more yarn per loom beam with production rates of over 1500 lbs. per hour.

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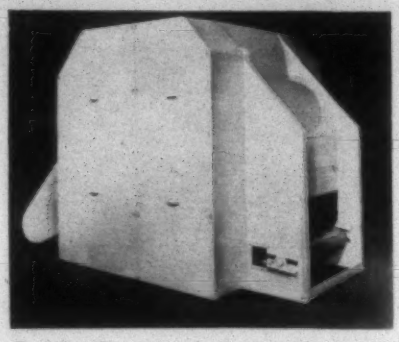
For The Textile Industry's Use

– NEW MACHINERY, EQUIPMENT AND SUPPLIES –

Opener-Cleaner-Blender

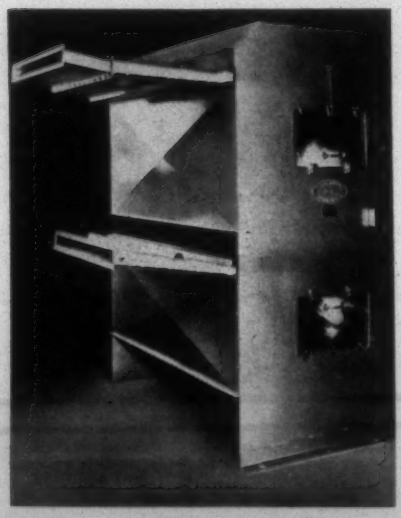


Davidson-Kennedy opener-blender-cleaner.

Saco-Lowell Shops, Boston, Mass., has acquired exclusive rights to sell and service in the U. S. the opener-cleaner-blender and the Duo-Jet cleaner manufactured by Davidson-Kennedy of Atlanta, Ga. These two new machines, to be known as the Saco-Lowell/Davidson-Kennedy opener-blender-cleaner and the Saco-Lowell/Davidson-Kennedy Duo-Jet cleaner, are said to be the most advanced design of this type of equipment.

The new opener-blender-cleaner, which is based on the design of the S.R.R.L. opener, features totally enclosed construction and incorporates several patented improvements to give optimum cleaning efficiency and intimate blending with minimum loss of lint. Saco-Lowell says it has been utilized on all types of stock (wool, cotton and most types of staple synthetics) with excellent results. The unit is said to be extremely efficient in removing pepper trash and to take out the heavier waste such as leaf, hull and stock before it can be broken into smaller particles that eventually show up as pepper trash in the yarn. Mills are said to report a substantial increase in production, up to 1,500 lbs./hr. in some cases with removal of approximately 30-50% of the trash content. These advantages have been obtained with no increase in nep count or detrimental effect on the break factor of the yarn, Saco-Lowell reports.

(Request Item No. D-1)

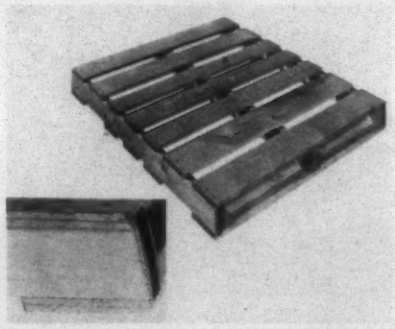


The Duo-Jet cleaner.

Water-Phase Pigments

Hart Products Corp., New York City, has announced that production has started on Hartochrome colors, a series of water-phase pigment emulsions for use in fabric printing. (Request Item No. D-2)

Warehouse Pallet



Signode Steel Strapping Co., Chicago, Ill., has introduced its new Super-Strip pallet. Costing only slightly more than standard warehouse pallets, Super-Strip pallets are said to last more than twice as long. Other features of the new pallet include two and four-way entry, elimination of snagging, and simple construction.

The Signode Super-Strip pallet is a wooden warehouse pallet that has been reinforced with a specially made ¾ x .035" plastic coated steel strapping. The strapping has been designed and specially treated to bend well and be nailable.

(Request Item No. D-3)

Latex Backing

A new styrene-butadiene latex designed to meet the requirements of the textile industry for a latex which will produce a soft hand, yet not require vulcanization, is now being produced by the plastics division of Koppers Co., Pittsburgh, Pa.

Known as Dylex K-40, this product primarily fills the need for a latex which will produce a more pliable carpet backing, especially where scrim is applied. In addition, Dylex K-40 is said to be finding application in the upholstery field because of its flexibility.

The company claims that this is the softest styrene-butadiene latex obtainable among the various types which do not require vulcanization. Available only with an antioxidant already incorporated into it, Dylex K-40 is reported to retain its flexibility under extreme aging conditions in laboratory tests and field trials. Koppers is now making it commercially available at the same price as other latices of the non-vulcanizing type.

(Request Item No. D-4)

Anti-Vibrational Material

Vibra-Check, an anti-vibrational material for use under the base or feet of machines, is said to eliminate up to 90% of vibration. Produced by Lowell Industries, Boston, Mass., the material is said to be simple to install with no lagging or cementing to the floor necessary.

Vibra-Check is said to eliminate creeping or crawling of vibrating machinery because of the high coefficient of friction (0.8) and the vacuum suction cup pattern of its surface. In applications where leveling becomes necessary, leveling screws bear down on metal shims which are inserted between the foot or base of the machine and the pad.

Lowell says the pads have a breaking point of 7,500 p.s.i., dimensional stability and high-impact flexural and tensile strength, insuring its re-usability in the case of machinery relocation.

(Request Item No. D-5)

Intersecting Draw Frame

A new Servo-Drafter intersecting draw frame, designed to produce high quality yarn in fewer operations by maintaining consistent yard-for-yard sliver weight, has been developed by The Warner & Swasey Co., Cleveland, Ohio.

Designed for use in all top making, drawing and precombing applications, the new machine is said to retain the proven features and quality standards of previous Pin Drafter models. However, it provides the extra advantage of precise weight control, which according to the company, is accurate within 1%. The machine, in a single draft, can correct input weight variations of as much as ± 25% in wool and the complete range of synthetic fibers, the company reports. Floor space requirements remain unchanged from previous models.

The system incorporates a pair of mating mechanical rollers between which each yard of entering stock passes enroute to the faller bars. Variations in stock weight (thickness) cause variations in roller separation; these variations being transmitted mechanically to a rotating memory wheel.

Around the circumference of the memory wheel, at $\frac{1}{16}$" intervals, is a series of 120 movable, precision ground pins which are

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THE FRAME PREFERRED BY SPINNERS

COTTON SYSTEM SPINNING

for carded and combed cotton short and long staple

for synthetics and blends up to 3 inch fiber lengths

yarn numbers from 2's to 120's

More than 625 of these highly productive Roberts narrow spinning frames have been bought by mills in the United States, in addition to 725 other Roberts models, all since 1956. This makes a total of 1350 Roberts frames with almost 500,000 spindles . . . unmistakable proof that Roberts Spinning is preferred by Spinners for its unmatched flexibility, higher production speeds, yarn quality and economy.

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ROBERTS COMPANY
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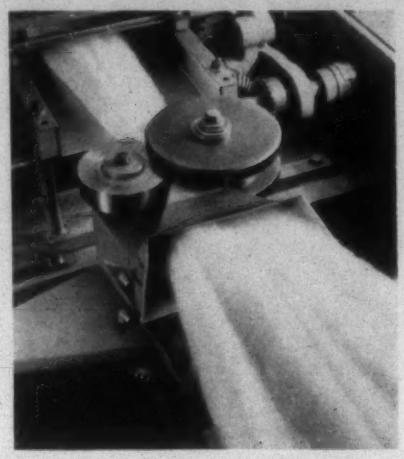


This pair of mating mechanical rollers are designed to detect even minute variations in entering stock weight; these variations being translated through a hydraulic and mechanical system into changes in faller bar operating speed required to achieve accurate sliver weight control.

automatically positioned to correspond to the pattern of roller separation produced by passage of the entering stock. Purpose of the rotating memory wheel, in effect, is to introduce a time delay in machine response, to allow the stock to travel from the rollers to the faller bar mechanism.

The memory wheel pins are positioned at one point in the wheel's arc, then read and cleared at another point in the arc, thus providing the required time delay. A total of 90 of the closely-spaced pins are in use at all times between the positioning and reading points in the wheel arc, so as to detect even minute variations in sliver weight down to less than 1%. Because the individual pins are both positioned and read from the same end, possible variations in over-all pin length have no adverse effect on operational accuracy.

A hydraulic servo translates the pin position variations into faller bar operating speed changes to achieve consistent yard-for-yard sliver weight. In other words, when the memory wheel pins indicate increased entering stock weight, the servo, through a variable speed transmission, decreases faller bar speed proportionally. When the memory wheel indicates decreased entering stock weight, the servo accordingly signals an increase in faller bar speed.

Faller bar operating speed, as in other Warner & Swasey Pin Drafters, averages 1,500 drops per minute. This speed, however, is automatically varied over a range of ± 25% with the Servo-Drafter in achieving sliver weight control.

(Request Item No. D-6)

Resin Fume Control

A new product for the abatement and control of airborne fumes from textile finishing operations using urea-formaldehyde resins has been developed by Rhodia Inc., New York City. Called Formol 11-X, the substance is said to reduce the intensity of strong formaldehyde vapors by providing abatement through chemical change. The recommended application is to spray a 1-1½% water dilution directly into the fume exhaust duct system or process area. The spray should be as fine as possible to achieve maximum results.

(Request Item No. D-7)

Gear Tester

Scherr-Tumico Co., New York City, has introduced an electronic gear tester using the Sanborn electronic recorder coupled with either the Scherr 2" gear tester, the Scherr 5" gear tester or the Parkson 9" and 15" gear testers. The same electronic recorder can be used on any of the above gear testers simply by mounting a transducer on the gear tester. A separate transducer is required for each gear tester.

The Scheer-Tumico Electronic Recorder can be calibrated to any ratio within the limit of the recording tape. One line on the paper can be made to equal from .00005 to .001" depending upon the pitch of the gear being checked.

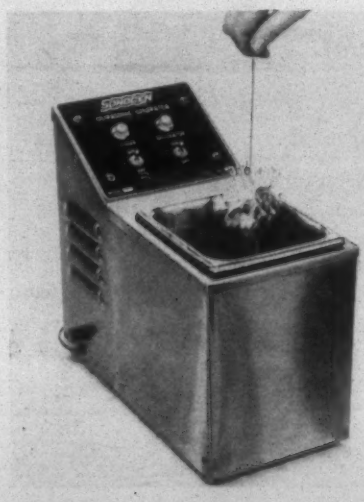
A driving motor can be furnished to drive the gear being checked. This motor can be wired to the switch controlling the recording tape so that both gear and tape operate in unison, or it can be hooked up to an independent switch if so desired. The electronic recorder can also be furnished without motor drive.

The Scheer-Tumico electronic recorder uses no ink but operates with an electrically heated stylus. By the simple adjustment of a knob the stylus temperature can be adjusted to give a fine or a heavy line.

Gears can either be checked in pairs or against a master gear in which case a master gear for each pitch is required together with a driving gear of the same pitch for the driving motor.

(Request Item No. D-8)

Ultrasonic Cleaner



Branson Ultrasonic Corp., Stamford, Conn., has introduced a fully-transistorized, self-contained ultrasonic cleaning unit. Called the Model LGT-40, this equipment is ideal for cleaning small precision parts.

The unit is said to take advantage of the latest advances in semi-conductors to

achieve a powerful, rugged compact arrangement for long life with little or no maintenance. The design is said to be exceedingly simple, an on-off switch being the only generator control required. A second switch controls integral heating elements, to keep the cleaning solution at the proper temperature.

Both housing and inner tank are of 300-series stainless steel. To simplify drainage of spent cleaning solution, the half-gallon tank is completely removable; there is no need to disconnect or move the entire cleaning unit.

Generator output is 40-w. average, 80-w. on peaks. Power input is 120-w. at 114-v, 50/60 cycle a.c.

The unit is 14" deep, 7" wide, and 13" at its highest point. The countertop (working) area is 10" above the table. Model LGT-40 is available either with or without an integral heater.

(Request Item No. D-9)

Pigment Red

The Hilton-Davis Chemical Co., Cincinnati, Ohio, division of Sterling Drug Inc., has announced that it has developed a new red pigment printing color.

The new color, called Hiltone Red B, is of the ITR type and is said to produce prints of true carmine shade. When reduced, these reportedly produce attractive, bright, blooming shades of pink.

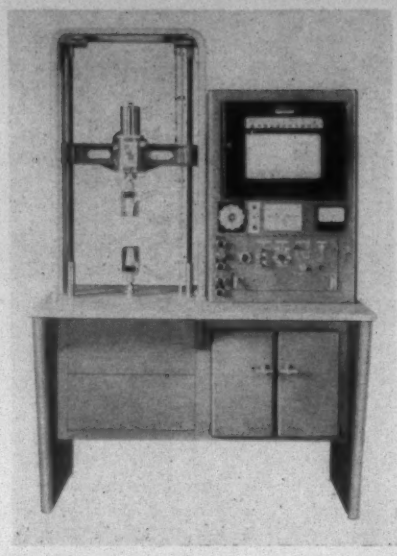
The new Hiltone Red B is offered both in the Hiltone and Seabond printing systems, and can be applied to cottons and synthetics. Hiltone is a water-in-oil system, and Seaboard an oil-in-water system.

(Request Item No. D-10)

Tensile Tester

New pushbutton controls that take all the weight-handling out of physical testing have been incorporated by Scott Testers Inc., Providence, R. I., into its Model CRE constant-rate-of-extension tester. Employing a super-sensitive electronic weighing system, the Scott Model CRE is said to provide precise control of crosshead and chart speeds, quick changes of test capacities, automatic weighing and visual time-to-break indication—with all functions centralized on the conveniently located control panel. Major test load ranges within the 0 to 1,000 lb. capacity of the tester can be varied simply by inserting interchangeable force dividers into a compactly designed load cell. In addition, test ranges within each of the 12 force divider capacities can be varied up to 20:1 by pushbutton controls.

Model CRE electronic weighing converts linear motion and picturizes test curves on a strip chart recorder, completely free from errors of inertia and friction. Built-in controls provide infinitely variable specimen extension speeds (up to 400:1), plus a wide range of recorder chart speeds (up to 32:1)



permitting high magnification of stress-strain curves.

Adaptable to all Scott clamps, this new tester makes use of all Scott fixtures in conformance with A.S.T.M., I.S.O., and industry methods.

(Request Item No. D-11)

Lift Truck

A brand new 24-volt rider straddle hi-lift truck is now available from the Barrett-

FOR THE TEXTILE INDUSTRY'S USE—

Cravens Co., Northbrook, Ill. This truck, called the Model RST, is designed for narrow aisle stacking of pallet loads from 1,000 to 4,000 lbs.

Controls are placed conveniently to enable the driver to maneuver and handle capacity loads with speed and efficiency. Steering is controlled by his left hand. A single right hand lever controls both forward or reverse travel, and fork lifting or lowering. Twisting the lever forward or back governs travel through 4 speeds forward and 4 speeds reverse. Raising or pushing down on the lever lifts or lowers forks.

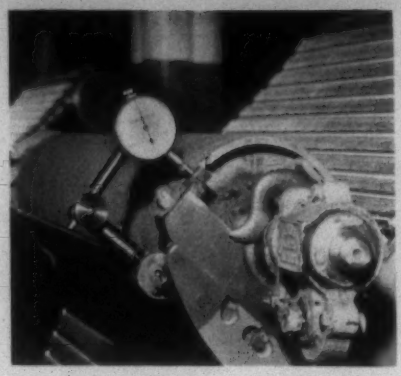
The new gear drive in the RST is designed as a single package unit for space economy and top efficiency. The drive wheel, transmission drive motor and brake are mounted vertically in line with the steering lever. The entire drive mechanism is said to be easily accessible and may be removed from the truck chassis by unscrewing four bolts. The unit is equipped with a dead-man type brake. The large drive wheel is rubber tired. Both load and caster wheels are of Barathane material.

(Request Item No. D-12)

Accurate Flat Grinding

Accurate and positive indication of movement of the drum grinder on card flats is now possible through the installation of dial indicators on the cradles, according to Textile Grinder Co., Gastonia, N. C. The company says that with the installation of these indicators it is possible to grind the flats straight, avoiding the possibility of one end being ground lower than the other.

(Request Item No. D-13)



This drum grinder has been equipped with dial indicators on the cradles to provide accurate card flat grinding.

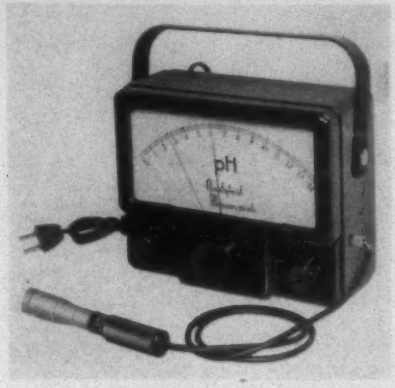
Reactive Yellow

Ciba Co., Fair Lawn, N. J., has introduced what it describes as a versatile reactive yellow. This latest addition, called Cibacron Yellow G, builds up well in the exhaustion method and gives excellent yield in all pad applications as well as by the Thermofix method, according to the company.

A complete range of Kelly Greens is said to be possible by combining Cibacron Yellow G and Cibacron Turquoise Blue G. These shades can be obtained by all methods of application. The yellow has all the properties associated with the Cibacron reactive dye family and is said to be exceptionally fast to resins. It is suitable for printing and can be discharged to a pure white with neutral discharges. The new product is also recommended by Ciba for dyeing wool by the Neovadine method.

(Request Item No. D-14)

Portable pH Meter



Analytical Measurements Inc., Chatham, N. J., has introduced its new Model 700 big scale pH meter, which is said to make it simple to read pH values within .02 pH. Easily portable (it weighs 5 lbs.), the unit can be used wherever a standard 115 volt a.c. outlet is available.

This instrument is said to be the first of its kind to provide a big scale, so that it may be read quickly and easily—and a compact housing, so that it may readily be carried in one hand and used where it is needed.

Model 700 features a single operating control and a high output electronically modulated amplifier, with printed circuitry and sensitive meter elimination. Brochure No. 700 fully describes the unit.

(Request Item No. D-15)

Neutral Grey Dye

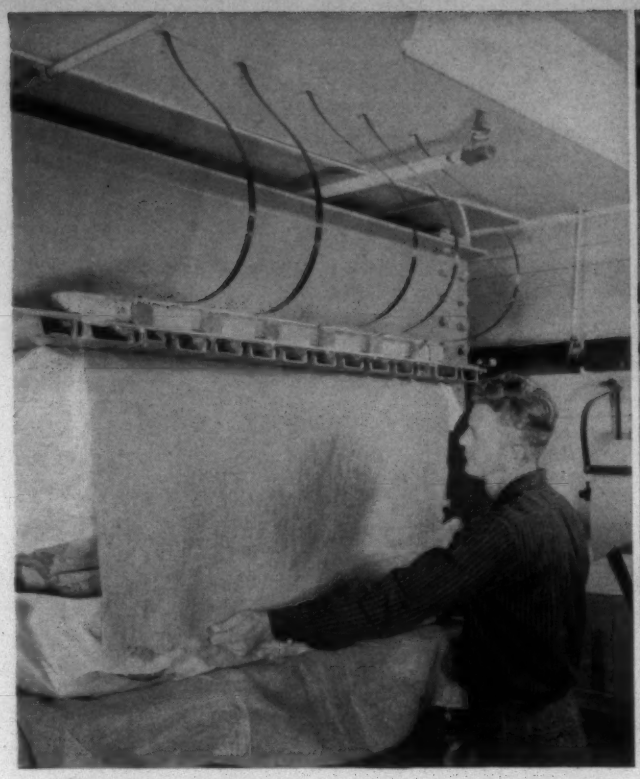
Cuprofix Grey C-BL p.a.f. is the latest addition of aftertreated direct dyes produced by Sandoz Inc., New York City. Distinctively neutral in tone, it may easily be shaded as desired by using the other dyes in the Cuprofix line, Sandoz reports. Aftertreatment with Cuprofix No. 52 or copper sulfate is said to yield shades of good fastness to light and wet processing.

(Request Item No. D-16)

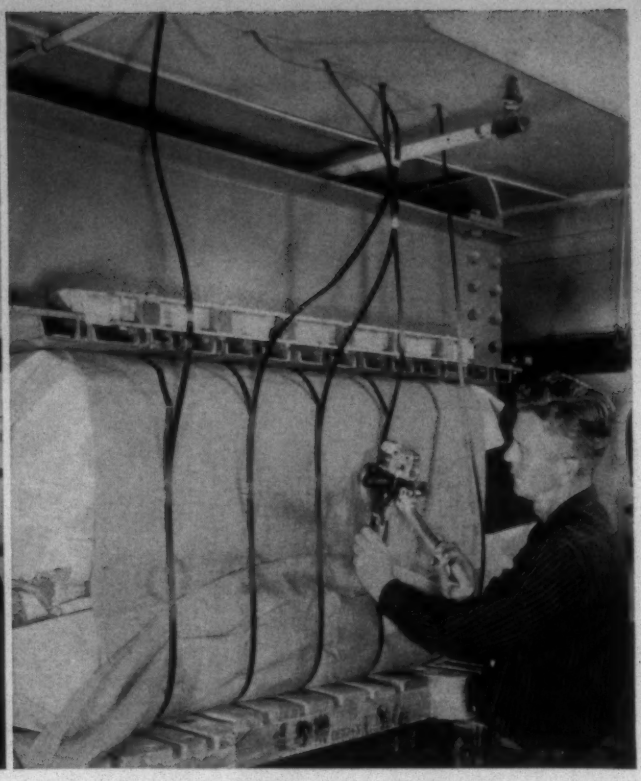
Anti-Static Agent

Aston 123, described as a new durable anti-static agent, has been developed by the Onyx Oil & Chemical Co., Jersey City, N. J. The agent is said to require no complicated processing and to use normal equipment found in most finishing plants. It is applied by cross-linking with Eponite 100, manufactured by Shell Chemical Co.

Aston 123/Eponite 100 is applied by

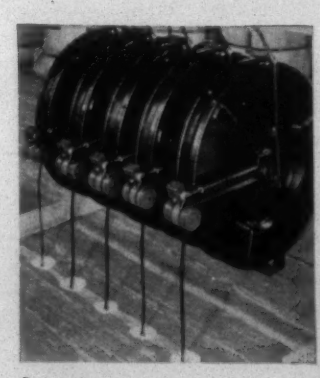


Strapping is fed from dispensers in room above press (inset). A magnetized bar holds the straps in position while bale is readied.



Signode's exclusive Model SFC tool tensions the strapping, feeds seals from magazine, and crimps them. Straps are severed at the seal. No waste strap.

Signode way produces denser bales and reduces strap use by 17%



Strapping dispensers can be in a variety of locations. Above, they are shown set up in an overhead storage area; at right they are shown installed on a framework over the press. They may also be installed on the floor beneath the press or behind the operator.

Here's an example of a simple and inexpensive answer to a packaging problem. Waste—which was part of the former cut-to-length strapping method—was eliminated, with a 17% saving in the amount of strapping used. Bales are better looking. Their increased density saves about 7% of valuable space in storage and shipment. The entire strapping operation is simplified, goes easier and faster.

Why not let a Signode man take a new look at your packaging and shipping operation. He has an eye for savings, specialized knowledge of textile applications, and a complete line of strapping tools and machines at his disposal. Call him today, or write:

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padding. Normal drying is all that is necessary in order to achieve durability, Onyx reports. Processing can be carried out over a wide range of pH and it is felt that after-wash is unnecessary on medium to darker shades.

The textile fibers division of the Du Pont Co. has applied for patent application of the combination of the two chemicals as applied to yarn, staple and tow and fabrics. This is described in Du Pont's Multi-Fiber Bulletin X-114. However, exclusive application rights are reserved for only the application to yarns, staples and tow. Applications to fabrics will be royalty-free to the trade. (Request Item No. D-17)

Nonwoven Binders

Fibrous vinyl and styrene resins are now available in developmental quantities for testing as binders in the production of nonwovens from Union Carbide Plastics Co., division of Union Carbide Corp., New York City.

Fiber lengths vary from very short to a maximum of $\frac{3}{16}$". The fibers are very irregular in shape with diameters ranging from 2 to 200 microns. The vinyl resin is designated VXKA-6112 and the styrene resin, SXKA-0121.

Mats of cotton, rayon and Dynel modacrylic blended with the new Bakelite fibrous resins have been formed on a wool card and also on a garnett. The mats are hot-calendered to form dense-structured nonwovens. (Request Item No. D-18)

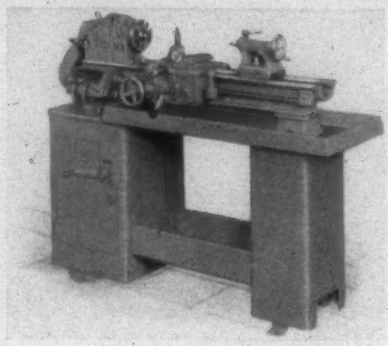
Dyeing Aids

Carbic-Hoechst Corp., New York City, distributor for Farbwerke Hoechst AG., Frankfurt-Hoechst, West Germany, has announced the development of two new Hoechst products.

Fast Grey Salt G and Fast Grey Salt B are new fast color salts said to produce with naphthols fast to light, dischargeable grey shades of excellent fastness to washing, including chlorine.

Fast Blue Salt OT, which is a new fast color salt containing a new buffer system, is said to eliminate any additions to the developing bath. Fast Blue Salt OT produces dischargeable navy blue shades on naphthols which are said to be very fast to light and washing. (Request Item No. D-19)

Redesigned Lathes



The 10" lathes produced by South Bend Lathe Inc., South Bend, Ind., are now equipped with columnar-type legs fabricated of heavy gauge steel. All-welded, reinforced construction is used throughout for maximum rigidity and strength that provides deflection-free support for the lathe. Formerly the units had cast legs.

The headstock leg contains the underneath motor drive which has to be disengaged before the door in the leg can be opened. The two legs are connected by a deep U-section tray that can be used for storage. (Request Item No. D-20)

For the Mill Bookshelf

Electric Truck

A fully-illustrated brochure describing its 6,000-lb.-capacity industrial electric truck, Model F-50T6, has been published by Elwell-Parker Electric Co., Cleveland, Ohio.

The brochure describes the new Acro-Smooth carbonpile speed control, designed to give operators greater control over speeds by providing smoother, step-less acceleration. Photographs, diagrams and full truck specifications are included.

(Request Item No. D-21)

Nonwoven Binders

New physical forms of both vinyl and styrene resins are described in a new tehnical release from Union Carbide Plastics Co., New York City, division of Union Carbide Corp. Entitled "Bakelite Brand Fibrous Resins as Nonwoven Textile Binders," this release discusses the economical possibilities offered by these materials in the production of denser types of nonwovens. (Request Item No. D-22)

Sludge Collectors

"Circuline Sludge Collectors," Book 2546, recently published by the Link-Belt Co., Chicago, Ill., presents the firm's complete line of six series and 15 types of Circuline collectors available for water, sewage and industrial waste treatment settling tanks. The 28-page book presents two new series and six new types of collectors.

The new Series U features multiple effluent weirs for uniform flow and a tank with sloping bottom for construtions economies. The new Series A consists of aeration sludge collectors for preliminary and extended pre-aeration and settling.

The book contains two tables: one gives

the required surface area for various flows and surface loadings for a given settling tank size and the other shows how to determine tank dimensions, volume and weir length. (Request Item No. D-23)

Web Guiding System

GPE Controls Inc., Chicago, Ill., has published a 16-page booklet describing its web guiding system. One application of the system is said to provide inexpensive and effective guiding of cloth into a tenter frame. It is effective with fabrics of any texture, from the most delicate to the heaviest woolens, the company reports.

The system includes a detecting head, a controller and a power cylinder. The detecting head may be of either the air jet type or the photoelectric type. It is placed at the edge of the material. When the edge of the material moves away from its proper position the detecting head relays this information to the controller which activates the control power cylinder to make the necessary correction.

On tenter frames the system is said to automatically position the tenter rails and to assure an accurate selvage engagement of the pins or clips.

(Request Item No. D-24)

Industrial Scales

The full line of scales for industrial use is presented in a new bulletin from Toledo Scale Corp., Toledo, Ohio. This literature illustrates and describes standard Toledo weighing equipment including portable, bench, floor, built-in, motor truck, counting, net weight packing, and mail and parcel post scales. Several types of Toledo equipment custom-built to user needs are also briefly described.

Designated Form 200le, the publication groups scales by type to facilitate reference to specific models. Fifty-six illustrations and descriptions are included to assist the reader in determining the type of scale suited to his needs. Pertinent specifications and capacities are also listed for each model.

(Request Item No. D-25)

Web Tension And Torque Control

Web Controls Corp., West Englewood, N. J., has published a 6-page brochure on tension and torque control units for webs and filaments, automatic edgeguide installations, and electric or pneumatic eye controls. The brochure gives all the specifications, charts, graphs on the units performances, and action photos of the units in their many applications.

(Request Item No. D-26)

Radiant Heaters

Detailed information on two types of industrial radiant heaters for drying, heating, baking and curing is given in a new product bulletin issued by Corning Glass Works, Corning, N. Y.

The 14-page booklet, PE-70, provides product data on both the Vycor brand tubular heater and the Pyrex brand panel heater. Both units emit far infrared energy. Up to 90% of this energy is absorbed by the products.

The Vycor brand unit emits infrared rays from wire coils enclosed in tubes of 96% silica glass. In the Pyrex brand unit, the radiant energy source is a tempered borosilicate glass panel. One surface of the glass has been coated with an electrically-conductive film that serves as a resistance element and heats the glass panel.

The illustrated booklet contains drawings showing assembly of the units, charted operational information, installation pointers, and photographs of several actual installations. (Request Item No. D-27)

Textile Guides

The first in a series of monthly bulletins written especially for retail merchandise managers, buyers and sales personnel, giving up-to-date information on textile fibers, fabrics and finishes, has been issued as a service to the textile industry by Dow Corning Corp., Midland, Mich.

The bulletins are designed to help dispel the existing confusion on these textile subjects in the minds of retail executives, for more profitable promotion of current merchandise. The importance of an informed retail trade is accentuated by the new federal labeling act, Dow says.

The first of the bulletins briefly traces the "revolution" in the textile industry during the past 40 years with the introduction of new man-made fibers and their impact on the market. The bulletins are printed in easy to read 4-page fact sheet format, punched for notebook binder reference use.

(Request Item No. D-28)

Cotton Cleaner Drive

T. B. Wood's Sons Co., Chambersburg, Pa., has published Bulletin 16103 describing its newly designed cotton cleaner drive, said to be able to increase production by eliminating choke-ups of cleaner in normal operation. The packaged drive includes two grooved sheaves of the same diameter and a mating nylon-faced neoprene belt reinforced by helically wound steel cables. The bulletin reproduces photographs of the drive in service and includes a line drawing of side and end elevation of sheave. Other pictures show easy installation and removal of belt as compared to conventional V-belt drives. (Request Item No. D-29)

Automatic Boilers

A bulletin on the company's line of Powermaster Model 5 packaged automatic boilers has been released by Orr & Sembower Inc., Reading, Pa.

The 4-page bulletin describes and illustrates the Model 5 line whih includes high and low pressure types in 20 h.p. to 100 h.p. sizes, fired by oil, gas and combination gas-oil. Hot water units especially designed for forced circulation heating applications are also covered, with choice of firing arrangements.

The bulletin describes and illustrates each type of boiler, their firing arrangements and the features of the boilers, with details of burners and controls. Ratings and dimensions of all sizes in the line are included as well as approximate fuel consumption for each size. (Request Item No. D-30)

Electric Controls

Warner Electric Brake & Clutch Co., Beloit, Wisc., is offering a new electric controls brochure. This 8-page booklet describes in detail Warner's line of standard, special and custom controls used to actuate Warner electric brakes and clutches. Included are sections on description, operation, dimensions and selection.

(Request Item No. D-31)

High Velocity Dryer

A new 4-page bulletin from J. O. Ross Engineering, division of Midland-Ross Engineering, New York City, gives technical data on three new model high velocity dryers. Air outlet velocities range from 15,000 to 20,000 f.p.m. with temperatures to 800° F. and beyond in certain applications. Dryers may be manually or automatically controlled and are said to be extremely flexible in operation. (Request Item No. D-32)

Flexible Couplings

Bulletin No. 5103 covering its complete line of Sure-Flex flexible couplings, including the new Junior couplings with flanges of zinc alloy AG40A and the large-size bush couplings fitted with Sure-Grip interchangeable, OD-type tapered bushings has been published by T. B. Wood's Sons Co., Chambersburg, Pa. New engineering data is also given on spacer couplings with drop-enter sleeves and on the use of Sure-Flex couplings with a floating shaft to connect two shafts that cannot be brought close enough together to be connected by a single coupling. (Request Item No. D-33)

Hand Trucks

A 2-color illustrated bulletin describing its line of four Wheel-Ezy hand trucks and nine types of wheels available for them has been released by Rapids-Standard Co., Grand Rapids, Mich.

Wheel-Ezy hand trucks consist of single handle and double handle, open nose and plate nose models. The bulletin also illustrates rubber and metal wheels available with the hand trucks to meet the demands of any floor surface.

(Request Item No. D-34)

Man-Made Fiber Guide

The United Piece Dye Works, New York City, has issued a 32-page booklet entitled "Guidebook to Man-Made Textile Fibers, Textured Yarns and Dyeing Characteristics of Blended Fibers." The booklet is designed to serve as a general reference book to all members of the synthetic textile industry—mills, converters, cutters—as well as to retailers and others.

The booklet is available at $2.00 from The United Piece Dye Works, 1410 Broadway, New York 18, N. Y.

Serving The Textile Industry

Saco-Lowell Enters Two Sales Agreements

Two new sales agreements supplementing its line of textile machinery products have been announced by Saco-Lowell Shops, Boston, Mass. The agreements are with Davidson-Kennedy Co., Atlanta, Ga., for its opening and cleaning machinery, and with Allgauer Maschinebau G.M.B.H. of Western Germany, for an advanced line of twisters.

The company also reported that it had an operating profit in the first two months of the present fiscal year—the first such profit in three years.

Warner & Swasey Co. Reports Increased Income

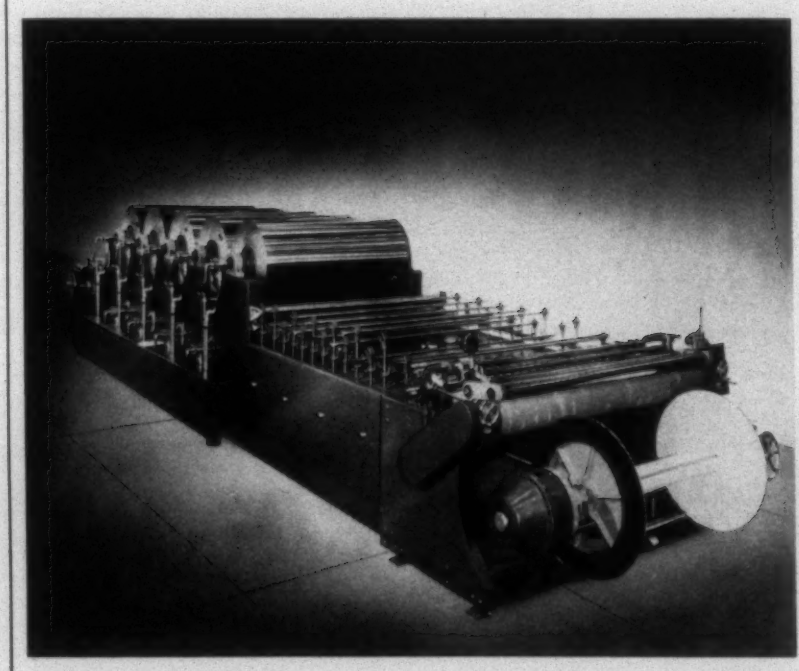
Net income of The Warner & Swasey Co., Cleveland, Ohio, for 1959 was $4,167,495 on a product income (net sales and income from leased products) of $56,655,948, as compared to $1,124,454 on a product income of $40,073,452 in 1958. The figures include, in both cases, operations of the Sterling Foundry Co., a Warner & Swasey subsidiary.

The company reports that the sale of textile machinery again increased in 1959, reaching a volume almost equal to the peak year of 1950.

Hartford Fibres Moves Southern Sales To Charlotte

Hartford Fibres Co. has moved its Southern sales office from Atlanta, Ga., to 221 South Church St., Charlotte, N. C. The company said this decision to re-locate was motivated by the desire to be more centrally located in relation to its customers, particularly in view of market development plans for Hartford's new product, Zantrel polynosic staple fiber.

Richard M. Salisbury, Southern sales manager, will be in charge of Southern sales and Kenneth L. Whitney, technical service manager, will be in charge of technical service. Both will be located in the new Charlotte office.



RECORD SLASHER ORDER—West Point Foundry & Machine Co., West Point, Ga., has received an order from J. P. Stevens & Co. for 14 West Point Pacesetter slashers in eight different plants. This is one of the largest orders ever received by West Point. Stevens plants involved are the Industrial Plant, Rock Hill, S. C.; Patterson Plant, Roanoke Rapids, N. C.; Utica-Mohawk, Seneca Plant, Seneca, S. C.; Appleton Plant, Anderson, S. C.; Apalache Plant, Greer, S. C.; and Republic Plants Nos. 1, 2 and 3 at Great Falls, S. C. A previous order involved the Piedmont Plants at Piedmont, S. C. All but one of the installations will be complete with new high-speed head end with traversing headstock and the new West Point high capacity double-squeeze box. A number of the installations include magazine creels. West Point reports that orders for its Pacesetter slashers have reached a new high in the past year. To meet the demand, West Point has recently completed a new foundry building, expanded its sheet metal fabrication department, and is currently building an addition to its assembly shop.

Celanese Corp. Reports Record Sales

Celanese Corp. of America, New York City, has reported earnings after taxes of $22,648,307 in 1959, after providing for preferred dividends. This represented a 36% increase over the 1958 earnings of $16,685,917, the latter being adjusted to reflect a 25% stock distribution made last July.

The Celanese 1959 sales totaled $265,235,584, highest in the corporation's 42-year history and exceeding by 14% the previous sales record of $232,483,942 established in 1950. The 1959 earnings were at the highest level since 1951.

Of total 1959 sales, chemicals accounted for $52,299,880 and plastics for $45,520,314, both achieving record levels, while the year's Celanese fiber sales amounted to $167,415,390, highest since 1950.

In comment on 1959 operations, Harold Blancke, president of Celanese, told stockholders: "The year was one of significant accomplishment not only in record sales and improved earnings, but also in major developments undertaken to strengthen and broaden the base of our business." Among these, he cited the acquisition of Darvan nytril fiber; the development of Arnel 60 high-strength triacetate for lighter weight apparel fabrics; and the imminent market introduction by Celanese of a new polyester fiber.

Dayton Rubber Co. Reports Record Sales

Dayton Rubber Co. sales for the year ending October 31, 1959, reached a record $101,838,313 and exceeded by 19% the previous year's sales of $85,509,634.

Net profits of $2,414,226 were up 75% from the total of $1,324,434 in fiscal 1958.

The Roberts Co. Places Debentures

Roberts Co., Sanford, N. C., has privately placed $500,000 of 6% subordinated convertible debentures, Series B, due February 15, 1975, or may be converted into common stock on or before February 15, 1965. Cherokee Securties Inc. of New York and Courts & Co. of Atlanta handled the placement. The principal buyers were The Axe-Houghton Funds and The Worth Fund, both investment funds.

Whitin Machine Works Reports Higher Sales, Profits

Whitin Machine Works, Whitinsville, Mass., has announced a 1959 net profit, after taxes, of $592,301. Net sales for 1959

"He'll never do it . . . that book's printed on Dillard paper!"

amounted to $49,026,923, an increase of $18 million over 1958. Sales of textile machinery were substantially higher than in 1958, the company reported.

The consolidated Whitin annual report includes the following subsidiaries: American Type Founders Co., Fayscott Landis Machine Corp., Whitin of Canada and Harvey-Wells Electronics Inc. American Type Founders of Elizabeth, N. J., was purchased April 1, 1959. Nine months sales figures of the A.T.F. subsidiary are included in the Whitin statement.

About its textile machinery business, Whitin said, "Textile machinery sales had increased greatly by mid-1959, and we now find ourselves with a backlog of orders in excess of any time in recent years."

J. Hugh Bolton, president of Whitin, commented that "In spite of the current heavy bookings of textile machinery, we have no assurance that the highly cyclical trends of the textile industry will not coninue. For that reason it is our intention to do everything possible to further diversify our product line so that we will not be so dependent upon textile machinery."

Corn Products Forms New Sales Division

Corn Products Sales Co., Greenville, S. C., has announced the formation of a new division. Greenville, S. C., will be the district headquarters for South Carolina, North Carolina and southern Virginia. The Greensboro office will be continued as part of the Greenville district. J. Alden Simpson has been appointed district manager. W. Rouse Joyner will continue in charge of the Greensboro office.

Coats & Clark Sues U. S. Ring Traveler

Coats & Clark Inc., New York City, has filed a patent infringement suit against U. S. Ring Traveler Co., Providence, R. I., in Federal Court in Greenville, S. C.

U. S. Ring Traveler is charged with infringing Coats & Clark's Patent No. 2,326,828 covering a plastic traveler. The patent was issued in 1943 to William H. Camp, who assigned it to the plaintiff.

Coats & Clark says U. S. Ring Traveler copied and sold its travelers. It also charged that its travelers and those made by the defendant are practically indistinguishable.

Creslan Promoted For Carpet Use

The fibers division of American Cyanamid Co., New York City, has retained Edward Fields, leading carpet stylist, to create a sample collection illustrating the versatility of Cyanamid's Creslan acrylic fiber in carpets.

Twenty sample rugs are being styled by the carpet designer to demonstrate the wide range of yarn effects, textures, weaves and colors which may be achieved with the new fiber.

Fields' rugs feature a variety of soft and hard-twist yarns, as well as cut-and-loop pile, in unusual color and texture effects. Many in the collection can be adapted for commercial manufacture.

The company expects Creslan to be a strong contender in the man-made carpet and rug field during coming seasons. Although no commercial plans have been announced, five or six mills have been working with the new fiber at the experimental level and the program is said to have produced highly promising results.

Ramsey Products Corp. Moves To Charlotte

Ramsey Products Corp., Albany, N. Y., producer of industrial silent chain, sprockets and chain couplings, has completed the move of its manufacturing facilities to a new plant in Charlotte, N. C. The company said the new location will afford excellent transportation facilities to all sections of the country.

James Hunter Delivers First Hydraulic Press

James Hunter Inc. of Mauldin, S. C., has announced the delivery of the first Beaty hydraulic press manufactured by the company since its recent acquisition of the J. T. Beaty Machine Co. of Charlotte. This Southern subsidiary of the James Hunter Machine Co., North Adams, Mass., also produces a complete line of textile fiber feeding and blending machines, flex spools, expanders and cloth handling equipment.

Hydraulic baling presses for use by the textile industry will be manufactured in the large, new plant recently built by James Hunter in Mauldin. In addition to manufacturing the equipment formerly produced by the J. T. Beaty Machine Co., the company will maintain parts and service facilities for Beaty equipment presently in service in plants throughout the country.

1959 Proves A Good Year For Crompton & Knowles

Crompton & Knowles Corp., Worcester, Mass., reports that 1959 was its best year since 1950, profit-wise. Net earnings in 1959 were $1,486,816 on sales of $22,800,362. In 1958 earnings were $811,344 on sales of $18,939,250.

Sales of textile machinery and parts, at nearly $15 million, accounted for 64% of the company's business. Textile machinery sales accounted for only 56% of the company's business in 1958. The company said that the textile machinery and parts business in 1960 should be at a level well above that prevailing in 1959.

The sales and earnings report includes the Althouse Chemical Co. division, the packaging subsidiary, the international company, the Carl Beetle Plastics Corp. and the Canadian operation.

Du Pont Realigns Textile Marketing

A realignment of marketing activities "to provide more effective service to textile customers" has been announced by the Du Pont Co.'s textile fibers department. The move includes changing the sales divisions to the marketing divisions, with Ford B. Draper as general director and Edgar H. Bleckwell as assistant general director. Formerly they held similar positions in the sales divisions.

Arthur M. Saunders has been appointed division director of marketing for the textile industry. In the textile marketing division the following directors have been named: Henry C. Froehling, James O. Graves, William B. Harman and Truman C. Welling.

1959 Sales And Earnings Up At The Draper Corp.

Draper Corp., Hopedale, Mass., reports that sales and profits were up sharply in 1959. Consolidated sales totalled $51,241,000, an increase of 33% over the 1958 total. Earnings totalled $2,062,965, an increase of 160% over the 1958 earnings.

The improved earnings were said to be due to higher sales stemming from the improved conditions in the textile industry. Present plans are said to call for limited production of the new shuttleless loom, with production to be accelerated in the second half of 1960.

Draper reported that large enough orders have been received on standard looms to provide satsisfactory operation well into the third quarter. The company said it was considering the further relocation of some of its activities in the Southeast.

Baxter Corp. Moves To Shelby, N. C.

The Baxter Corp., Paterson, N. J., has acquired a plant at Shelby, N. C. The plant is located on five acres of land on a rail siding and will have 33,000 square feet of office space after the addition of office space. Modern heating and air-conditioning equipment will be added. The company expects to occupy the space by the first of June. At that time all operations will be moved from the Grover, N. C., plant which is leased from Minette Mills.

Baxter produces cloth winding boards, textile wrapping papers, and provides a complete service to the jacquard industry. The jacquard services include: sketching and designing of fabrics; card cutting and blank card supply; and harness building. The company also sells jacquard machine supplies.

American Viscose Produces Modified Rayon Fiber

American Viscose Corp., Philadelphia, Pa., has announced that the trademark Avlin will identify its new multi-cellular rayon fiber. Known as RD 100 in its development stage, Avlin staple fiber is now in limited commercial production.

The fiber is being evaluated first in apparel and home furnishings end uses, but may have good potential uses in domestics and industrial applications, the company reported.

Avlin rayon is said to have a unique cross section and cellular structure. As a result it is said to cling to itself in a tight bond and to entwine other fibers in

the blend, thus creating firmness and bulk in fabrics. This same characteristic is said to give a unique, crisp, dry hand and touch in fabrics. The unusual shape of the fiber produces light reflecting surfaces which contribute sparkle and glitter not obtainable with conventional rayons, the company said.

The use of the name Avlin will be confined to the fiber when used in fabrics, either 100% or in blends, which meet American Viscose standards of quality control. Samples of finished goods will be tested for fiber content, construction and performance for each end-use application.

Knitgoods Drying Machinery Being Used On Woven Fabric

Machinery designed for the drying, curing and shrinking of knitgoods is finding its way into tthe weaving field, according to Donald Foreman, Tubular Textile Machinery Corp., Woodside, L. I. Although still not thoroughly mill tested, Foreman reported, the equipment seems to permit more dimensional relaxation, better uniformity that traditional woven fabric drying equipment and increased speed.

Two of the firm's dryer-shrinker-curer units are ready to be installed in a Southern finishing plant for use on woven goods. The gas-fired, electronically controlled units are called Reelax-Jet.

The machine has a temperature range up to 600° F. and can presently handle widths up to 72 inches. It has an evaporation rate of 450 pounds of water an hour on woven goods. The unit holds only 12 yards of cloth at one time and can be adjusted to handle speeds from 10 to 100 yards a minute, although mechanically it can run fabric at speeds greater than 150 yards per minute.

Saco-Lowell Lab Open To All Mills

Saco-Lowell Textile Machinery Division, Easley, S. C., has announced that its complete laboratory testing facilities are now available for all mills. The company reports that this operation is conducted on a non-profit basis with the fee used to defray overhead and operating eexpenses.

The lab utilizes the following equipment: Shirley analyzer; digital fibrograph; Sheffield micronaire; Pressley fiber strength tester; Suter sorter; Scott twist counter; Uster picker lap varimeter; Uster yarn strength tester; Uster evenness tester; Uster spectograph; Smott L.P. 4 single end tester; Scott skein break tester; Saco-Lowell sliver tester; Saco-Lowell lap meter; Seriplane; and a conditioning oven.

Food Machinery Corp. To Drop Westvaco Name

Food Machinery & Chemical Corp., New York City, will drop the name Westvaco from its divisional and brand identifications, effective April 1. The Westvaco Divisions will in future be known as the Chlor-Alkali and Mineral Products Divisions of the corporation.

Westvaco Chlor-Alkali Division is a major producer of caustic soda, chlorine, soda ash and solvents. Westvaco Mineral Products Division is a fully-integrated manufacturer of phosphates, barium products and magnesias. These chemicals and all other products of the two divisions formerly identified with the Westvaco name will in the future be known as FMC Chemicals.

Sales, Earnings Up At Leesona Corp.

Net income of Leesona Corp., Providence, R. I., formerly Universal Winding Co., for the six months ended December 31, 1959, was up sharply over the six months ended December 31, 1958, and over the six months ended June 30, 1959.

Sales and other operating revenues were $13,691,345 as compared with $7,004,926 for the six months ended December 31, 1958, and $11,235,270 for the six months ended June 30, 1959. Net income after taxes was $1,410,187 as compared to $313,943 for the December 31, 1958, period and $913,680 for the June 30, 1959, period. Earnings before taxes during the six months ended December 31, 1959, amounted to $2,861,430, compared with $642,583 in the corresponding period a year ago and with $1,864,161 in the six months ended June 30, 1959.

The company said that Unifil loom winder production was mainly responsible for these gains. Coil winding machine shipments were up. Contract research and manufacturing maintained their early 1959 level.

American Enka Reports Record Sales In 1959

Despite a recession in business in the final quarter, American Enka Corp., Enka, N. C., ended 1959 with record sales and with net earnings about four times larger than in 1958. Net income for 1959 increased to $5,723,278 from $1,364,853, excluding special credits, in 1958. Sales of $109,175,718 for the year represented an increase of 48% over the 1958 volume of $73,533,145.

"The high level of activity receded during the final quarter of 1959, due in part to the steel strike," according to the company. "With fewer assemblies of new passenger cars, demand for Tyrex yarn, which is used in substantially all original equipment tires, tended to fall off. Sales and earnings were also adversely affected by two price reductions in tire yarn in September and December."

Common Stock Increase Planned For Celanese

The management of the Celanese Corp. of America, New York City, will seek stockholder approval of plans to increase the authorized common stock on April 13. The directors seek to increase common shares from 10 million to 15 million.

It was pointed out that in 1959 the number of common shares was substantially reduced by the issuance of 1,963,285 shares in a one-for-four stock distribution, leaving 213,629 shares of authorized but unissued stock for corporate purposes. All other common shares are issued and outstanding or reserved for issue on conversion of preferred A stock.

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textile bulletin

VOL. 86 APRIL 1960 NO. 4

How To Use Break-Even Charts In Making Management Decisions

By SPENCER A. TUCKER*

REGARDLESS of a company's size, a time comes when it must face major decisions. How decisions are arrived at determines the probability of profit-making, the company's competing ability, and its chances of survival in recessions.

Break-even charts test in advance the effect of management's decisions. Using the B-E charts, a firm's probable business course can be charted and the impact of certain moves and changes pre-judged. B-E charts tell:

(1) impact of price reductions;
(2) effect of adding equipment;
(3) impact of increasing staff;
(4) effect of change in product diversification;
(5) how and when to marginally price;
(6) many more things.

Basic Data Required

To construct a B-E chart, company expenses must be divided into two parts: variable and fixed. Variable costs are those which change with volume, such as materials, direct labor, etc. Fixed costs are those which remain the same, such as depreciation, rent, etc. Some expenses have portions of each, such as supervision. Fig. 1 shows both the conventional and the B-E method of stating expenses to find out the profit trend. The B-E method separates expenses into variable and fixed and this is used to construct the B-E chart shown.

Construction Of The B-E Chart

In the square of Fig. 1, the diagonal is the sales line. The horizontal base line is the sales capacity and the left vertical line is for expenses. The expense line is scaled in dollars and the sales capacity line may be in dollars or in any other logical unit of output like yards, bales, pounds, etc.

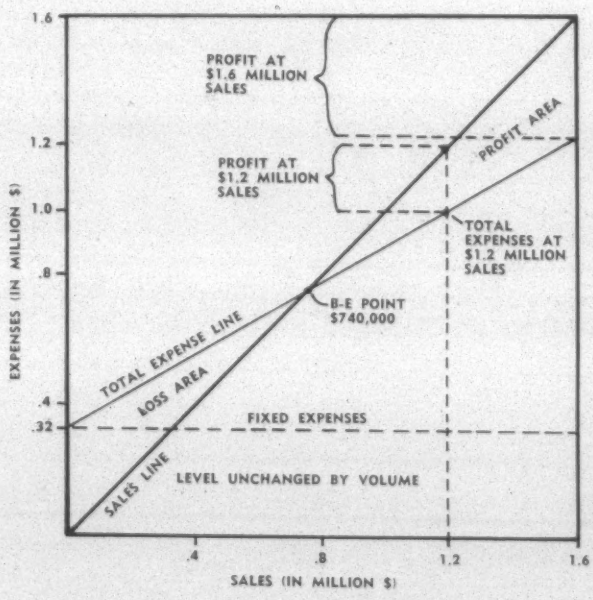
Using the data presented, the fixed expense line is dotted in as shown; its value remains the same for all sales levels. The total expense line is drawn from the minimum of $320,000 at zero sales to a maximum of $1,000,000 at maximum sales. The point at which this total expense line crosses the sales line is the break-even point. In this case $740,000 is the point at which there are no profits or

*Martin & Tucker, management consultants, Little Neck, N. Y.

Fig. 1

Segregation of Fixed and Variable Expenses at $1,200,000 Sales Level

Expense	Total Costs	Kind of Cost Fixed or Variable?	Fixed Amount	Variable Amount
Direct Materials	$350,000	variable	—	$350,000
Productive Labor	200,000	variable	—	200,000
Mfg. Overhead	250,000	both	$200,000	50,000
Administrative Exp.	100,000	both	75,000	25,000
Selling Expenses	100,000	both	45,000	55,000
TOTAL EXPENSES	$1,000,000		$320,000	$680,000



CONVENTIONAL PROFIT & LOSS	
SALES	$1,200,000
Total Mfg. Cost	800,000
Sell. & Admin. Exp.	200,000
TOTAL EXPENSES	$1,000,000
Net Profit before taxes	$ 200,000

BREAK-EVEN PROFIT & LOSS	
SALES	$1,200,000
Total Variable Expenses	680,000
Total Fixed Expenses	320,000
TOTAL EXPENSES	$1,000,000
Net Profit before taxes	$ 200,000

losses. When volume rises above $740,000, profits are made; below it, losses.

When the B-E point rises, the company has to sell more to maintain its level of profit. Sometimes the rise makes the company vulnerable to price reductions. At times it imposes psychological pressures which lead to desperation pricing and poor judgment. It's best to test decisions in advance.

Adding equipment, more personnel, or shifting the product emphasis can raise the B-E point. This may be good or bad depending on the state of the company and how the move affects the fixed and variable expenses.

If the decision concerns adding equipment, this will raise fixed expenses and will make large profits in boom times. But in periods of recessions the company will be in a tight spot since it cannot readily adjust its expenses to lowered income.

If the B-E point rises because of increasing a variable expense, then the company will not make as much profit during the boom times, but will be on safer ground during recessions, since its expense pattern is much easier to change.

Impact Of Additional Equipment

Expanding based on today's volume and market is like building a house without a roof on the assumption that it will never rain: the sun may shine today, but it's only a matter of time before the clouds appear.

Fig. 2 shows the before and after B-E points of a company that wishes to expand its capacity by 40%. Its fixed costs are $800,000 and its variable costs $931,500 or 45% of sales. Its present maximum sales level is $2,070,000 and its B-E point is $1,450,000 as shown by the intersecting lines on the chart.

Getting 40% more capacity with added equipment would raise fixed expenses to $1,000,000—a 25% increase. The variable costs would still remain 45% of sales, which is now planned at $2,900,000. The new B-E point as shown on the chart would be $1,820,000—an increase of $370,000 over the old B-E point.

The profit at full capacity before the expansion was

Fig. 2

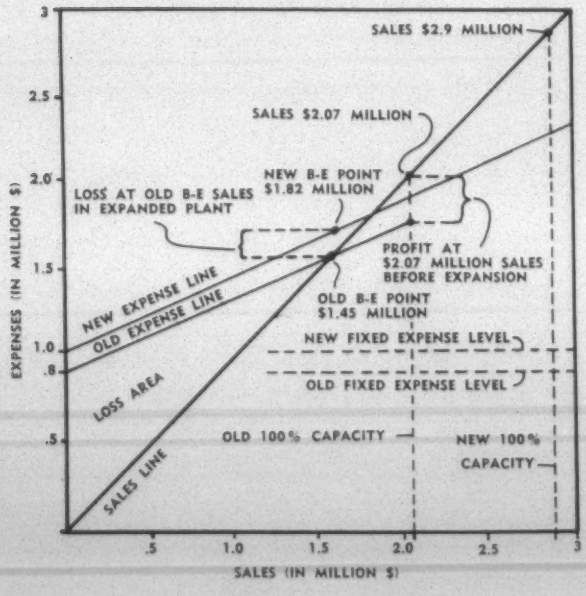
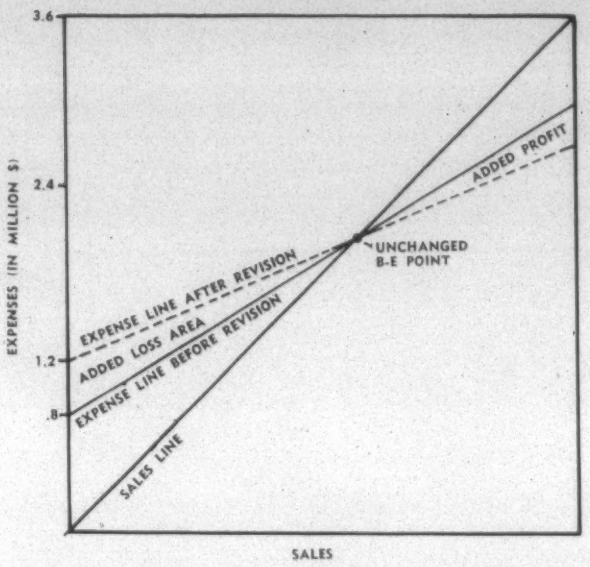


Fig. 3



	Before	After
Fixed Expenses	$ 800,000	$1,200,000
Variable Expenses	1,800,000	1,200,000
TOTAL EXPENSES	$2,600,000	$2,400,000

$350,000. With the load of the additional equipment, sales would have to be $2,460,000 (instead of $2,070,000) to make this same amount of profit. That means that there must be an increase in sales of at least $390,000 to justify the proposed expansion.

What happens if the company does not get the increases it expected after it has committed itself to the expansion? Suppose sales don't go above the old maximum of $2,070,000? Then the profits would be only $138,500. This is a *61% drop in profits* caused by a *16% drop in sales*. This is an example of loss vulnerability. Obviously, if sales dipped slightly more, a loss would be created.

Like so many companies who boosted the level of its fixed expenses by retaining permanent departments, doing more "make" than "buy," indulging in unjustified "front" expenses, and failing to police creeping losses, this company acquired a rigid fixed-expense pattern which now requires major surgery to remove.

Some expansions are made without a change in the B-E point. Fig. 3 shows the data of a company before and after its expansion. Notice that while the fixed expenses rose 50% as a result of the increase, this was offset by a one-third reduction in the variable expenses.

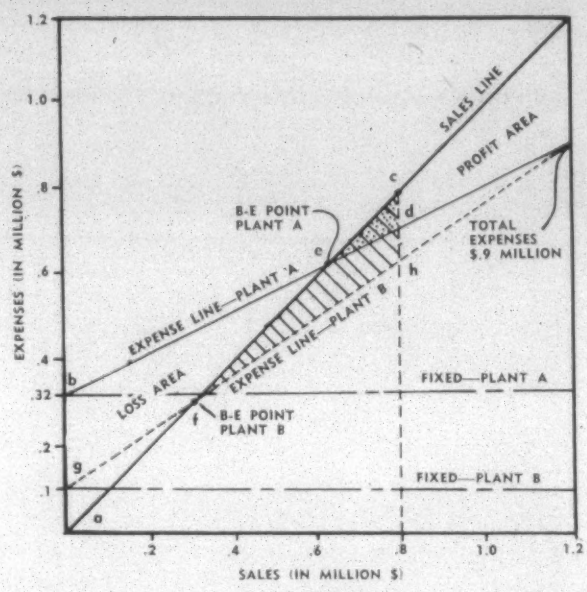
As long as the company believes that its normal sales volume will not fall below its B-E, which remains unchanged, all volume over this point produces a greater profit than the company enjoyed before the expansion.

Competitive Strength

The B-E chart also shows the ability to cope with competition. Fig. 4 shows the data of two companies in exactly the same industry, making the same profit at maximum capacity. However, because of their different internal economies, their earnings are considerably different below this peak level.

Company A bought additional equipment as a panacea for higher profits, had excessive administrative expenses,

Fig. 4



	Plant A	Plant B
SALES	$1,200,000	$1,200,000
Fixed Expenses	320,000	100,000
Variable Expenses	580,000	800,000
TOTAL EXPENSES	$ 900,000	$ 900,000

and obtained low productivity in its manufacturing or processing. Company B used older equipment but squeezed every last cent out of it, farmed out some of its production work, and had a tight control on methods and costs.

Company B's B-E point was $300,000; Company A, $618,000. When sales volume was at $300,000, Company B was not gaining or losing, but Company A was losing $320,000 in *profits*. To survive in recessions, Company A would have to sell off equipment, eliminate administrative activities, improve operations — all almost immediately. Company B would not have to worry about these impractical moves since the larger portion of its expenses is variable and easily adjusted to volume dips.

Look at the differences in vulnerability; the balancing between risk and gain. At $800,000 in sales, Company A's gain wedge is shown in the dotted area of the chart labeled d-e-c, obtained at a risk of a-e-b. Company B has a more sensible operation: It gains the zone h-f-c by risking wedge a-f-g. Obviously Company A gains over the $1,200,000 sales level only.

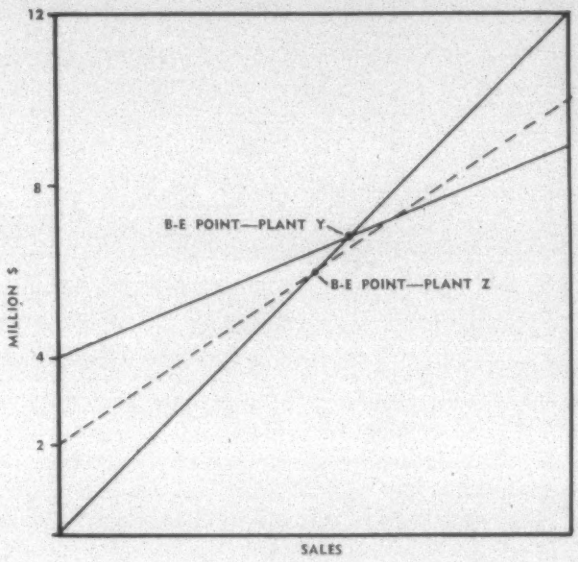
A proportioning between the fixed and variable cost elements is necessary in planning for the longer term. A lower total expense does not necessarily protect a company against pitfalls. Fig. 5 shows the data for two companies, where the one having a *higher* total expense also has the *lower* B-E point. This is only possible because of the impact that the fixed costs have in each company.

Both companies are in the same industry and make a similar line of products. However, Company Y has fewer hand operations than Company Z. While Z uses and pays more labor per unit, it keeps itself more elastic since it doesn't have large investments in equipment like Y. Z uses production wage incentives instead for boosting its output.

Conclusion

Expansions, price reductions, changes in staffing, etc., are all fine if they can be economically justified. The company that plunges into one of these steps without testing its effects first is taking an exercise in chance. By use of properly classified data and break-even charts, management gets some idea of the company's characteristics. With B-E charts, a safe and profitable growth path can be planned.

Fig. 5



	Plant Y	Plant Z
SALES	$12,000,000	$12,000,000
Fixed Expenses	4,000,000	2,000,000
Variable Expenses	5,000,000	8,000,000
TOTAL EXPENSES	$ 9,000,000	$10,000,000
Net Profit before taxes	$ 3,000,000	$ 2,000,000
VULNERABILITY		
Profit at $7.2 million	$ 200,000	$ 400,000
Profit at $4.8 million	LOSS: ($1,200,000)	LOSS: ($400,000)

4th Q. Fabric Production Shows Cotton Up 3%; Man-Made Up 2%; Wool Down 8%

A preliminary tabulation of broad woven fabric production for the fourth quarter 1959 indicates that cotton fabric production increased 3% and man-made fiber fabric production increased 2% compared to the previous quarter. During the same period woolen and worsted fabric production decreased 8%.

Production of cotton fabric and woolen and worsted fabric were respectively, 4% and 10% above the fourth quarter 1958 levels. Man-made fiber fabric production declined 2% from the output during the comparable period of 1958.

For the year 1959 preliminary estimates of production for all classifications show increases over 1958. Woolen and worsted production increased 14%, cotton production increased 7% and man-made fiber fabric output increased 4% from the previous year's level.

How Diversified Can You Get?

RUSSELL MFG. CO. SPINS, WEAVES, KNITS, FINISHES, CUTS, SEWS, MERCHANDISES AND PROSPERS

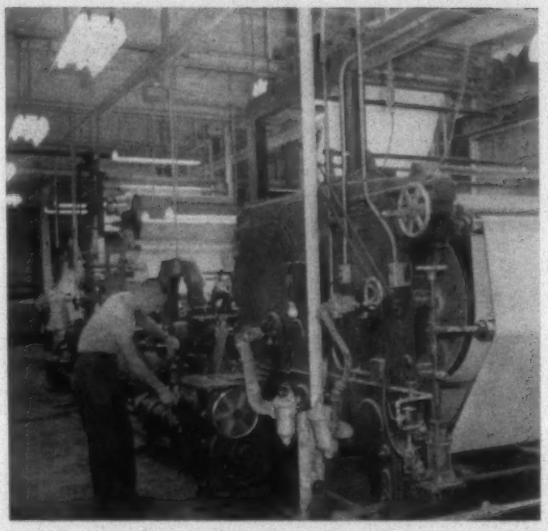
THE Russell Manufacturing Co. of Alexander City, Ala., is one of the most diversified textile operations in the United States.

Founded in 1902 as a producer of ladies' knitted vests, the firm now does its own spinning, weaving, knitting, finishing, cutting, sewing—even merchandising. The company started operations with 12 used knitting machines picked up from a bankrupt mill in Georgia. Today it employs some 3,300 people, and turns out a wide variety of products that consumed more than 20 million pounds of cotton alone last year. In the last 30 years, total number of employees has increased over 400%; capital assets have jumped 500%; net sales have soared 1,160%; salaries and wages are up by more than 2,000%.

For organizational purposes, Russell consists of four operating divisions

(1) Greige mills: 5 plants; 1,650 Employees; 70,000 Spindles; 1,400 Looms. Besides being one of the world's largest producers of stripe, box, dobby and staple seersucker, the division also makes combed staple and fancy baby cords, corded striped chambray, sport shirting and dress goods; piques are made narrow and wide wale, waffle and birdseye; oxford shirting; novelty colored yarn fabrics; and combed knitting yarns. Average weekly production amounts to 475,000 to 485,000 yards.

(2) Bleachery Division: 250 Employees. Russell's bleachery finishes all of the company's woven and knitted fabric production. It also handles public finishing (i.e., finishing for other mills and converters). Currently 40% of the bleachery's capacity goes to Russell goods; 60% to commercial work.



Both of the Sanforizers in Russell's bleachery have rubber blankets. Goods are pre-shrunk to customer specifications.

One of the modified open width bleaching ranges in Russell's finishing plant runs at 90 to 135 yards per minute. The caustic and peroxide J-boxes and various washers and dryers are tied together for continuous operation.

(3) Knitting Plant: 1,400 Employees; 273 circular knitting machines. Products of this division include a wide variety of fabrics for underwear, outerwear and sleepwear.

(4) Athletic Wear Division. Russell operates this division under the name Southern Mfg. Co. It is one of the nation's largest suppliers of uniforms for baseball, football, basketball, tennis, track, etc., as well as athletic-type sweatshirts and gym suits.

In 1902, the knitting operation was started in a wooden frame building with a total area of some 5,000 square feet. Today the entire company occupies over 2¼ million square feet (approximately 50 acres) of floor space.

Original Product

The company's original product was ladies' knit vests and teddies. In 1908, deciding it could make yarn cheaper than it could buy it, the company built a spinning mill. The plant was converted from steam to electric power in 1914. About 1925, long underwear, sweaters, athletic shirts and ladies' bloomers were added to the production of ladies' vests, making a more diversified line for the company. Looms were first added to the production equipment in 1927. Fleece-lined sweatshirts were added in 1930 and later the line was extended to include knit athletic wearing apparel such as basketball, football and softball jersies. By 1938, the athletic wear department was also making woven athletic uniforms which included basketball, baseball and football trousers

and jackets. At this time a screen processing department was organized to make lettering and designs.

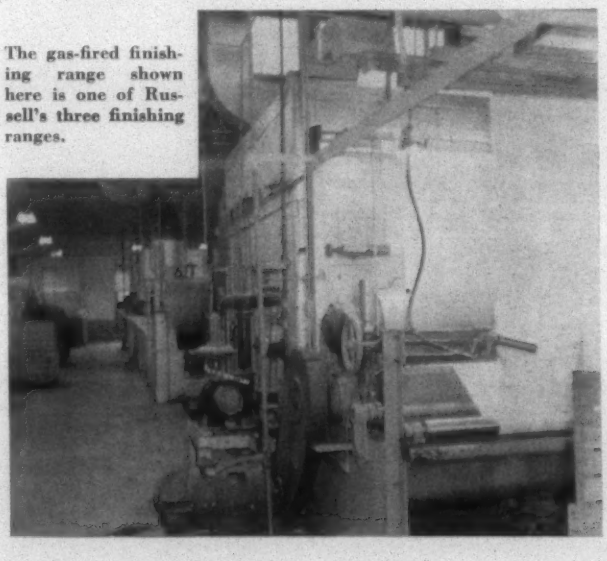
Bleachery Beginnings

The company began a small bleaching operation in its early history with some home-made equipment, but it wasn't until 1931, in the worst part of the depression, that a modern bleachery and finishing plant were constructed. The growth in importance of finishing facilities is seen from the fact that in 1959 100% of all woven goods and 90% of all knitgoods produced by Russell were wet finished.

The bleachery was built primarily for bleaching, dyeing and finishing goods made by the greige mills in the Russell group. As the greige mills began to convert from plain white to fancy, colored yarn fabrics it became necessary to procure white greige goods from other mills.

Mercerizer Added

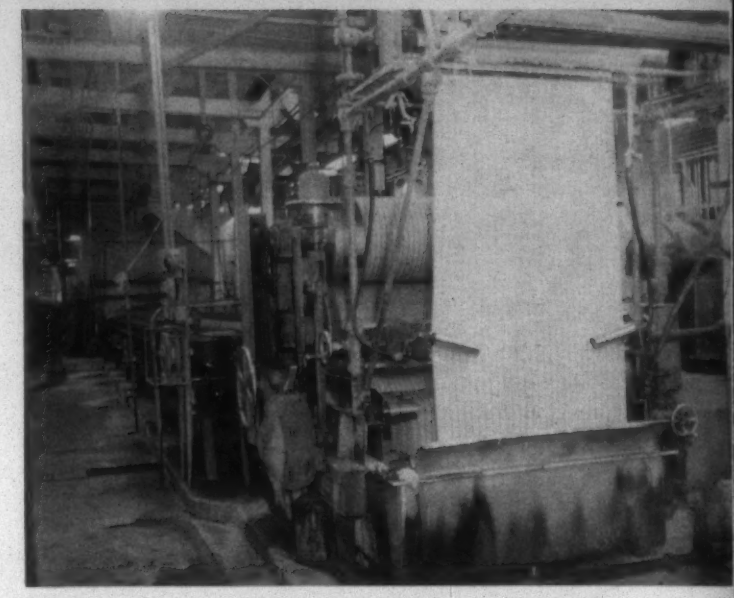
A mercerizer was added to the bleachery equipment to allow for the establishment of a line of mercerized vat-dyed sheeting fabrics, and the addition of higher grade broadcloths and poplins. The experience gained by the bleachery in this venture enabled it to accept a small amount of job finishing work on cloth belonging to other textile mills. By the time World War II came along, this type of business represented the larger part of the bleachery's production.



The gas-fired finishing range shown here is one of Russell's three finishing ranges.

Enlarged in 1940 and 1945, the bleachery underwent a five-year modernization program from 1945 to 1950 making it an up-to-date plant. The mercerizing range was modernized and an all stainless steel, continuous, modified open-width bleaching range was installed. The latest type tenter frames were install as well as an additional modern Sanforizer. Other additions include equipment especially designed for processing seersuckers and a new continuous dye range.

The bleachery now consists of: (1) a mercerizing range; (2) a continuous dye range; (3) three tenter frames, two with steam drying and one with gas-fired curing oven for wash-and-wear finishing; (4) two Sanforizers; and (5) two bleaching ranges, two continuous modified open-width and one kier set used mostly for knitgoods bleaching.

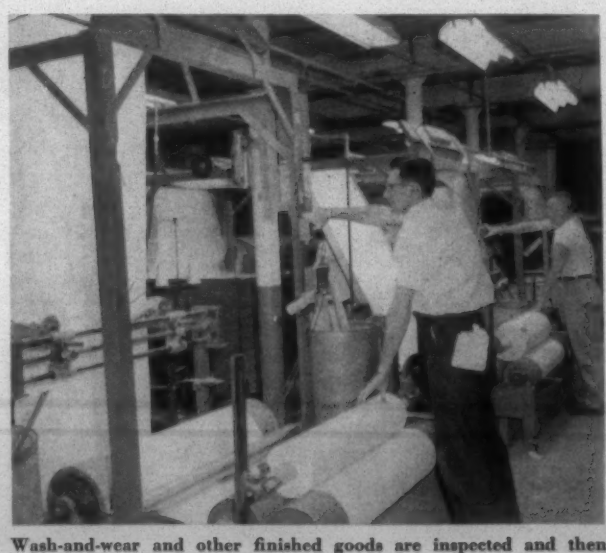


Russell's modern mercerizing range caustic saturates, tenters, washes and vacuum extracts in a continuous operation.

Open-Width Bleaching

The company's modified open-width bleaching ranges run between 90 and 135 yards per minute depending on the weight of the fabric. In processing white fabrics the goods are first laid out and the ends are sewn together. They are then singed and desized. After a careful washing the goods pass through a caustic saturator into a caustic J-box. The caustic J-box has a capacity of approximately 10,000 yards of an average weight (5.50 yards per pound) fabric. Another washing operation follows the caustic J-box. The fabrics next are saturated with peroxide and are run into the peroxide J-box where the bleaching action takes place. After bleaching, the fabric is carefully washed and dried on 50-pound pressure steam dry cans. The entire operation is continuous from start to finish.

Before mercerizing the fabric is first desized and washed. Then it runs through a caustic saturator with double squeeze rolls. The cloth then goes onto a tenter frame and is washed with cascade washers and vacuum extractors. After mer-



Wash-and-wear and other finished goods are inspected and then tubed on these wind-up machines.

J. W. Richardson is a Russell vice-president and manager of the bleachery division.

cerization the goods are folded into boxes for further processing.

Russell's finishing operation is highly diversified. For instance, on one hand, Russell finishes some interlinings with a simple starch finish. On the other extreme, the company finishes high count, premium priced broadcloths, skip dent shirtings, and goods for the corset and brassiere trades with multi-purpose finishes. A considerable amount of colored yarn goods are finished for various trades.

Finishes Applied

Russell finishes goods: (1) bleached, mercerized and Sanforized; (2) bleached, mercerized and wash-and-wear; (3) pre-shrunk seersucker finish; (4) plain starch finish (for contract work); (5) polished—the plant is a licensee of the Bancroft Everglaze process; and (6) crease resistant finishes slightly different from regular wash-and-wear.

The growth of all four of the company's divisions is traced from 1930 to the present in the following tables. The financial figures are not weighted to allow for inflation.

Number of Employees

1930	816	100%
1935	1,355	166%
1940	1,879	230%
1945	2,083	255%
1950	2,379	292%
1955	2,856	350%
1957	3,116	382%
1959	3,334	408%

Cotton Consumed

1930	4,203,439	100%
1935	6,961,017	166%
1940	8,245,794	196%
1945	9,156,834	218%
1950	13,705,407	326%
1955	15,659,997	373%
1957	18,087,500	430%
1959	20,355,691	484%

Capital Assets

1930	100%
1935	112%
1940	124%
1945	138%
1950	297%
1955	407%
1957	499%
1959	546%

Net Sales

1930	100%
1935	120%
1940	193%
1945	338%
1950	564%
1955	730%
1957	1,019%
1959	1,160%

Salaries and Wages

1930	100%
1935	122%
1940	237%
1945	550%
1950	1,009%
1955	1,344%
1957	1,908%
1959	2,038%

Growth In Area

1945	1,127,730 sq. ft.
1955	2,119,132 sq. ft.
1957	2,179,132 sq. ft.
1959	2,260,012 sq. ft.

January Cotton Consumption Up; Spindle Activity Holds Steady

The Bureau of the Census reports that the daily average consumption of cotton in the U. S. during the month of January amounted to some 36,733 bales. This is an increase of almost 5,000 bales over the 31,997 consumed during December 1959, and an increase of some 2,200 bales over January 1959.

Total consumption for January amounted to 734,652 bales as compared to 690,088 bales during January 1959. December 1959 consumption was reported at 799,935 bales.

Total stocks on hand at the end of January amounted to 14,121,774 bales, of which 1,191,660 bales were on hand in consuming establishments.

Total consumption of man-made fiber staple for January amounted to some 39,555,000 pounds, down slightly from the December 1959 total of 42,572,000 and the January 1959 figure of 40,586,000 pounds. Stocks on hand at the end of January totaled 46,634,000 pounds.

The number of active cotton-system spindles in January totaled 19,365,000. Total in place, 20,065,000. Hours operated, 9,995 million.

How Dan River Organized Quality Control

By W. L. CLEMENT*

DURING the last 35 years the changes in manufacturing and merchandising and not least of all, in quality control have been numerous and comprehensive. Technologically, the changes have been beyond enumeration, a fact you know but one many people not conversant with the industry seem reluctant to accept.

I suspect some of you, like myself, grew up in the "old school" of manufacturing where quality was a matter of "by guess and by God," and fixer standards were notable by their absence. At best, quality was left to the discretion and judgment of individual supervisors, and more particularly, to the supervisor of inspection of the end product, be it yarn, greige cloth or finished fabric. In my own case, it was the late '30s before I even learned that the phrase "quality control" had been coined.

Since 1944

In 1944 Dan River Mills organized its quality control program. Up to that time, quality control came within the exclusive province of individual mill superintendents and their subordinate supervisors. Standards for evaluating quality were as varied as the individuals involved; testing procedures tended to be not only varied, but haphazard. Here was an ideal situation for launching a quality control program, since any change toward standardization in processing, inspection, testing and end-product evaluation of quality was decidedly a change for the better.

On hindsight it is easy to see we made mistakes, and some pretty big ones. The biggest was to separate the supervisor from his immediate and direct responsibility for the quality of the product that was produced in his department. But let me recount some of the measures we adopted in our early determined efforts to bring sense and order to the company's quality control procedures.

Central Laboratory

We immediately set up a central laboratory. In-process testing was taken away from manufacturing supervision and performed in this central testing laboratory. Not even a twist, draft or pick gear could be changed until the order to do so was countersigned by both the supervisor of the department involved and our laboratory supervisor. All testing from picker laps through and including the finished fabric, any testing at any stage of processing, was done in this laboratory or by quality control personnel. We took over the supervision of all inspection rooms in the various mills so that the inspection of both greige and finished fabrics was directed by quality control, not by manufacturing supervision.

We set out to have quality control that would equal or better anything in the industry. We retained outside engineers, we spared no expense, and we didn't worry too much about how many people it would take to do the job. And it took plenty! In a matter of months we had built a quality control staff of 175 men and women. Quality was our responsibility, not supervision's. Supervisors could worry about getting the goods out, about maintenance and personnel problems, but quality was our problem child.

Knowledge Comes Hard

Experience is the best teacher, but knowledge does not always come easy. It took us about two years to realize we had a monster by the tail, and we had better let go of it fast. As director of quality control, I was so beseiged with problems other than quality that I could not concentrate my energies on my primary objective. My associates on the quality control staff were in the same unsatisfactory situation. I leave to your imagination the uncomfortable position in which manufacturing supervisors found themselves, not to mention the nice problem of relationships between supervision and our department which existed under this type of quality control organization.

So we did what we clearly had to do. We put the responsibility for quality back where it belonged—on the shoulders of operating supervision. We re-made the quality control department into what it always should have been—a staff department charged with providing line management personnel with the tools needed to control the quality of their product.

In the process of re-making our department, we reduced our personnel drastically. Out-post laboratories were set up in each mill. The quality control laboratory was combined with that in the research division. A system for sampling greige and finished goods was developed. Adequate personnel was retained in the quality control department to recheck mill performance by visual inspection of fabric on this sampling basis. Spot checking is the name we gave it.

Point Grading System

Fundamental to our quality control operation is the point system of grading fabrics—one of the tools, if you will, that aids manufacturing supervision to turn out a quality product. The development of this system might be of some interest to you.

Back in the early days of our quality control program, we asked ourselves this question: "How can we establish a system that will enable us to make a valid comparison of our fabrics with those of our competitors, and for that matter a comparison of fabrics produced in individual mills within our own company?"

We also asked this question: "What standard of quality is required to meet our competitors' quality level?"

To find answers to these questions, we visited other mills and talked with our own customers. We found out on the great variety of fabrics we manufactured what level of quality we needed to meet our competition and what we needed to do a little bit better. Then we conceived the point system of inspection as a reliable measure of performance insofar as the visual quality of cloth is concerned.

Giving birth to the point system idea was one thing;

*Dan River Mills. This paper was delivered before the Textile Division, American Society for Quality Control, February 18-19, 1960, Clemson, S. C.

nurturing it to maturity was another. I will not burden you with the problems attendant upon its growth. I will say that the point system is thoroughly explained in a manual recently published through the combined efforts of the National Association of Shirt, Pajama & Sportswear Manufacturers and the Textile Division of the American Society for Quality Control. In its fundamentals, our system is exactly along the lines of that described in this manual.

As you know, in the point system of grading, each defect is evaluated and assigned a number of points. We happen to believe this is the best way to evaluate a piece of cloth visually. When we first introduced the system, we labored hard and long at the job of training inspectors in its use. We labored just as hard drilling the system into each supervisor from the top man down, and teaching it to individual operators. In the early stages, the point standards were set generously on various fabrics. As each fabric improved, the point standards were lowered. Today, by and large, we deliver lower print cloth than at any time in our long company history.

I should make clear that we had to do a tremendous selling job throughout the plants. It took several years actually before all of our people were sold on our point system. In our educational efforts we stressed the idea that supervisors and operators should get away from the old concept of percentage of seconds in judging their quality. Instead, they should judge each fabric on defect points per 100 yards and talk in that language. Rather than say "we make 5% seconds," we encouraged them to say "our defect points per 100 yards are 15, or 20", and so on..

The percentage of seconds of course is important, but quality performance should be based on the average number of defect points per 100 yards. Stated another way, quality performance should be not only a matter of how much you reduce your seconds; it should also be a measure of "how good is your first quality?" Average defect points per 100 yards give you the answer.

Current Organization

Now, with this background of historical information, plus the comments about the point system, let me describe

Type of Test	Type of Check	Kind of Testing
(1) Picker Laps	Each Picker	S/L Picker Lap Tester checking yd. to yd. variation in wt. of lap.
(2) Variation Checks:		
Card	20 cards each Div.	S/L Sliver & Uster Tester checking yd. to yd. variation in thickness of sliver.
Breaker Drawing	Each delivery	
Combers	" "	
Finisher Drawing	" "	
(3) Size Checks:		
Cards	Each delivery	Lay out sample on measuring board & weigh on grain scales. Reel on roving reel, weigh on grain scales.
Breaker Drawing	" "	
Finisher Drawing	" "	
J-3's & Speeders	10 bobbins/condition	
(4) Yarn Size and Break	10 bobbins/condition	Reel sample, weigh on grain scales or yarn quadrant, break on Scott Tester.
(5) Yarn Seriplane Checks	Each condition	10 bobbins reeled on a seriplane board & grade.
(6) Brush Uniformity Analyzer	Special checks only	Inch to inch variation of yarn, roving or sliver checked on Brush Analyzer.
(7) Nep Count	330, 345 & 360 Mixes	Count neps in 100 sq. inches.
(8) Ply Yarn Checks	10 bobbins/condition	Reel off sample, weigh on grain scales, break on Scott Tester, count t.p.i. on twist counter
(9) Moisture Regain—Sales Yarn	Each condition	Reel off sample, put in oven, weigh on grain scales, weigh again when bone dry.
(10) Greige Fabric Checks	Each fabric	Weigh 100 sq. in. on grain scales. Take wp. & fill. tensile break on three-4"x6" samples on Scott Tester. Count warp & fill. for 1" in 3 places.
(11) Fiber Analysis	Each synthetic blend	Bone dry sample & weigh. Cover & stir with acetone or other chem. Rinse, bone dry again, & weigh.

how we are currently organized for quality control.

Obviously, proper selection of cotton is very important. The nature of the end product and the planned use of the finished fabric must be known in order to select the proper grades and staple for blending. Once the cotton is selected and put into the mill, the in-process control starts.

Standardized testing procedures, worked out by the quality control department in conjunction with manufacturing management, have been established. The actual tests are carried out by the outpost control laboratories located in each principal manufacturing division, and are performed under the general direction of the division superintendent. Briefly, our control testing procedure for yarn manufacturing is outlined in the chart below.

Test Reports

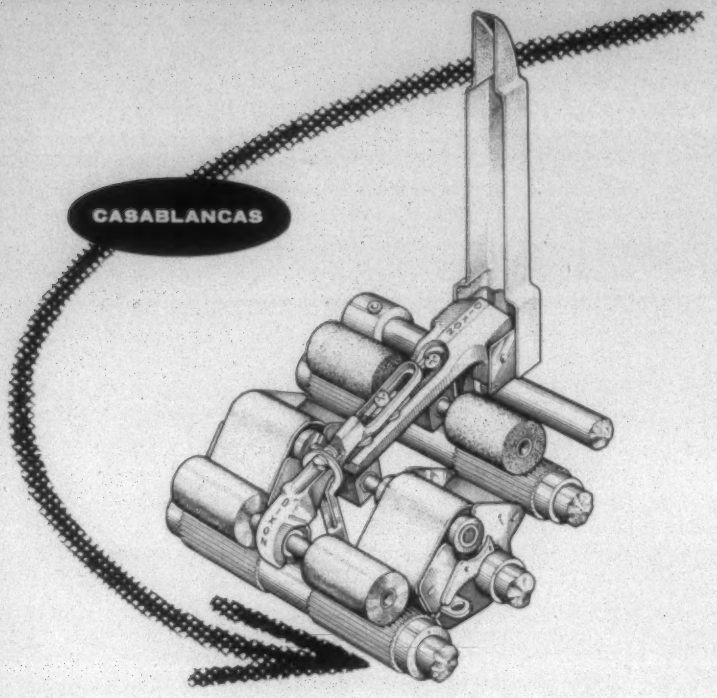
Copies of the test reports are furnished to the appropriate manufacturing supervisors, to the division superintendent, and to the quality control department. Let me emphasize, however, that the responsibility for these checks, and the responsibility for the quality of laps, sliver, roving, yarn, etc., are definitely placed on **manufacturing supervision.**

After the cloth is woven, every yard of fabric produced by each weaver is graded in the greige inspection department by the defect point system. High defect point cloth is taken back to the weave room and shown to the weaver responsible on each shift. It is also shown to the proper supervisors and loom fixers. The inspection department maintains a record of defect points on each fabric. This permits responsible supervisors to see just how many defect points are showing up in each fabric, and what types of defects are most troublesome, information that is very helpful to them in pin-pointing the causes.

The quality control department also enters the picture here to perform a control function. Sufficient greige cloth is sampled at random and sent to quality control for the spot-checking mentioned earlier. Expert inspectors score the cloth according to the number of points we have set up for each defect to make sure that the visual quality standards are

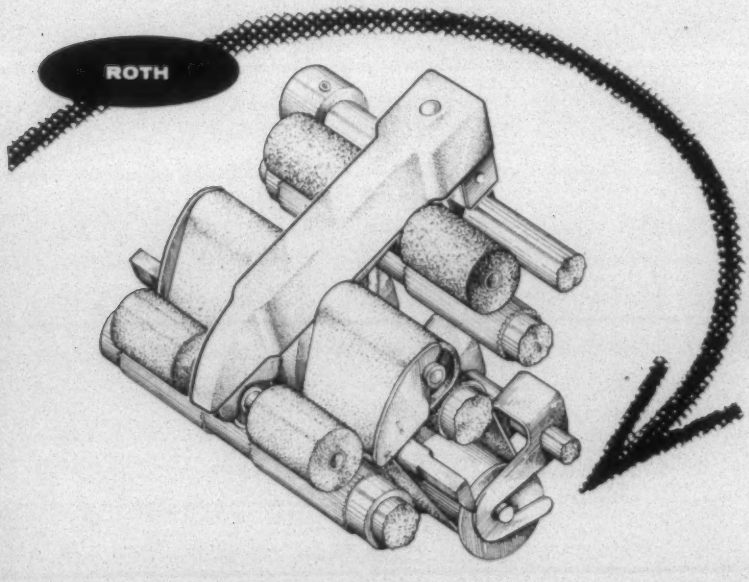
(Continued on Page 77)

Method of Sampling	Frequency	Persons Using Test
One lap per picker	Every week	Card Room & Maintenance Overseer & Fixers.
5 yards per delivery	Every week Every 4 weeks Every week Every 2 weeks	Card Room & Maintenance Overseers & Fixers.
1 yard per delivery	Every 4 weeks Every 4 weeks	Card & Spinning Room Overseers.
12 yards per bobbin	Every 2 weeks Twice per week	
120 yards/bobbin	Three times a week except daily on waste yarn	Card, Spin & Dress Room Overseers.
5 bobbins/condition	Every wk. except on novelty yarn	Card, Spin, Dress & Main. Overseers.
100 ft./check on yarn, 30 ft. per check on roving & sliver	Special checks only	Card, Spin, Dress & Main. Overseers.
4.19 grain=100 sq. in. of card web or sliver	Weekly	Card, Spin & Main Overseers.
15-120 yds./bobbin (according to yarn size)	Daily	Card, Spin & Yarn Finish Overseers.
15-30 yds. of one tube or cone/condition after 4 hrs. in Conditioning Room	Every week (No. 6 only)	Card, Spin & Yarn Finish Overseers.
One yard each fabric	Every week	Card, Spin, Dress & Weave Overseers & Quality Control
1 yard of drawing sliver	Twice per week	Card Room Overseers



ENGINEERED CHANGEOVER PLANS

for Both Spinning Systems



Dixon's multi-step changeovers for *both* Casablancas and Roth spinning systems are the product of over eighty years of specialized service to the textile industry. More than 2,000,000 spindles in leading mills* throughout the country attest to the dependability and high performance of Dixon-designed equipment.

If your spinning is outdated, a Dixon Engineered Changeover Plan is the most economical way to regain your competitive position in the industry. Dixon's broad product line and intimate knowledge of spinning technology make it possible for our engineers to recommend the system which will provide fastest pay-back in your mill . . . in terms of reduced cleaning, elimination of lubrication, fewer ends down, longer drafts, and better yarn uniformity. Furthermore, each Dixon Engineered Changeover Plan — whether Roth or Casablancas — can be installed in one or multiple low-cost steps. Mill profits improve RIGHT FROM THE FIRST STEP! When complete, the Dixon Plan provides the latest word in spinning efficiency:

- Middle and back rolls run on RULON® . . . the oil-free bearing that never is lubricated . . . outwears nylon 12 times.
- The Dixon patented self-aligning front roll rides on a hardened and ground, pre-lubed, sealed, precision ball bearing which is guaranteed for years and years and never requires lubrication.
- All parts are maintenance free. Pay-back on your investment is a matter of months.
- Productivity and quality improve. Yarn is cleaner . . . seconds decrease.

Want proof of performance? Ask our customers . . . also send for actual cost analysis of typical Dixon Changeover Plan which paid for itself in twenty-five months and is now saving $1.50 per spindle per year.

Dixon Corporation, Bristol, Rhode Island.
Southern Sales: Dunson & New, Inc., Box 9202 Greensboro, N. C.; Box 321 Greenville, S. C.; Box 445 West Point, Ga.

*To mention a few.

Mill	Spindles	System
Clifton Mfg. Co.	71,918	Double Apron Roth & Casablancas
Monroe Cotton Mills	18,756	Double Apron Casablancas
Columbus Mfg. Co.	17,000	Double Apron Roth
Crown Cotton Mills	15,232	Double Apron Roth & Casablancas
Deering Milliken	121,500	Double Apron Roth

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Pushbutton Weaving

INTEREST IS MOUNTING IN CROMPTON & KNOWLES NEW C-7 LOOM

CROMPTON & KNOWLES CORP. reports widespread interest in its new C-7 "pushbutton" 4x1 box loom introduced at the 1958 Southern Textile Exposition. Designed primarily for the production of terry toweling, fancy cottons, spun rayons and dress goods, the C-7 offers features that have gained wide acceptance among mills with installations now in operation. These features include an electric protector motion, a shuttle checking device, and an electric brake and clutch arrangement with V-belt drive. The C-7 has been tagged the "pushbutton loom" because conventional shipper handles have been replaced with pushbutton controls for stopping, starting and backing up.

Maintenance required on the loom is reduced by the elimination of all mechanical parts usually associated with driving and shipping as well as protection. Greater weaving speeds are allowed, in part, by truer shuttle flight provided by the new shuttle checking device. The center filling fork stop motion features electrical indication. On filling fork stops the loom automatically returns the lay to back center. Another feature of the C-7 is paper indication for the dobby head. Paper indication eliminates the cost of chain bars and pegs and greatly reduces the cost of duplicate patterns.

Electric Protection

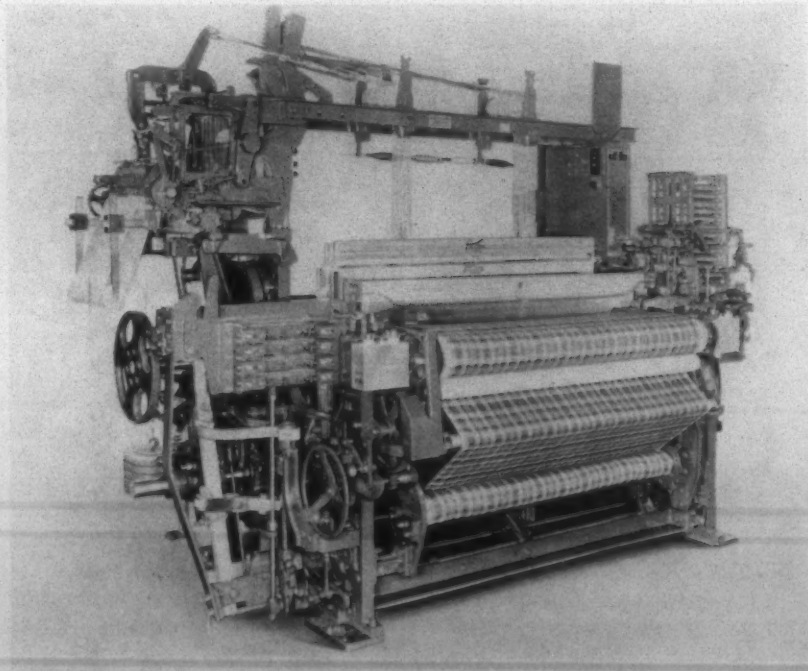
The electric protector motion in the C-7 consists of a piece of transformer iron imbedded in the shuttle and a strong permanent magnet coil in the lay. The shuttle must appear over the magnet at a predetermined time during the picking cycle or the loom will be brought to a smooth and fast stop through the electrical controls.

Technically, when the shuttle passes over the magnetic detector, the moving iron insert causes the magnetic field to be distorted and cut the multi-turn coil (many turns of wire and four diodes). A coil being acted upon by a changing magnetic field (as in a generator) will cause energy to be developed within the coil.

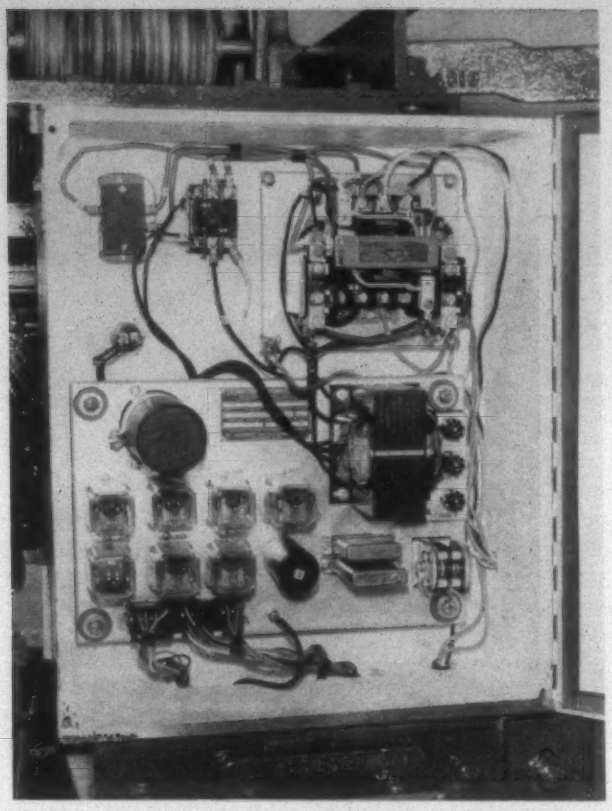
The magnet is made up of three poles, the two outer poles being North poles and the center pole (on which the coil is mounted) is a common South pole. Therefore, a shuttle passing over the magnetic detector will cut the magnetic field in such a manner as to generate an alternating current. Because the relay used with the system is a direct current relay, four germanium diodes are used as a full wave bridge rectifier, the output of which will be a pulsating direct current.

The energy developed by the detector unit when the shuttle passes over it is sufficient to operate a relay. A contact is paralleled by a section of a timing switch so that in order to maintain the stop relay in an energized condition (keeping the loom in operation) either the contact or the timing switch contact must be closed at all times.

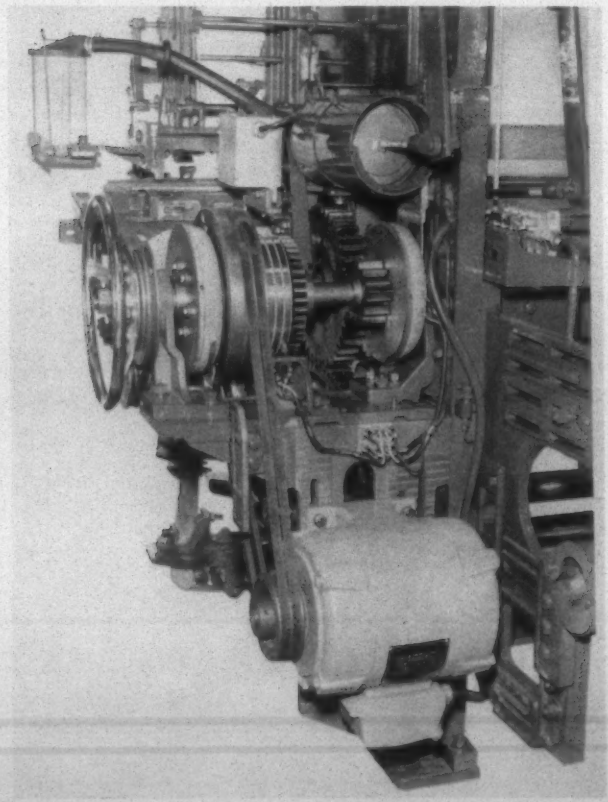
By setting the timing switch to open at back center of crankshaft rotation, the shuttle must be picked at the



The latest loom from Crompton & Knowles is the C-7. Commonly known as "the pushbutton loom," the C-7 was designed specifically for terry towel, fancy cotton, spun rayon and dress goods weaving mills.



The C-7's control panel *(shown with door open)* contains all electrical wiring and control apparatus. The control panel includes an optical indicating device that shows when a warp break occurs.



The C-7's drive is newly designed and includes two A-58 V-belts. The brake magnet is located immediately adjacent to the loomside while the forward and reverse clutch magnets are located on either side of the large drive sheave.

proper time and with sufficient velocity to pass over the shuttle detector to energize the relay and close its contact just before the timing switch contact opens. The timing switch contact must re-close before the relay becomes de-energized.

If the shuttle passes over the shuttle detector too high it will not cut a sufficient number of flux lines from the magnet to energize the relay so the loom will stop. Also, an extremely fast shuttle could cause the loom to stop because the relay will have energized and de-energized by dissipation of the induced energy before the timing switch re-closes.

Shuttle Checking Device

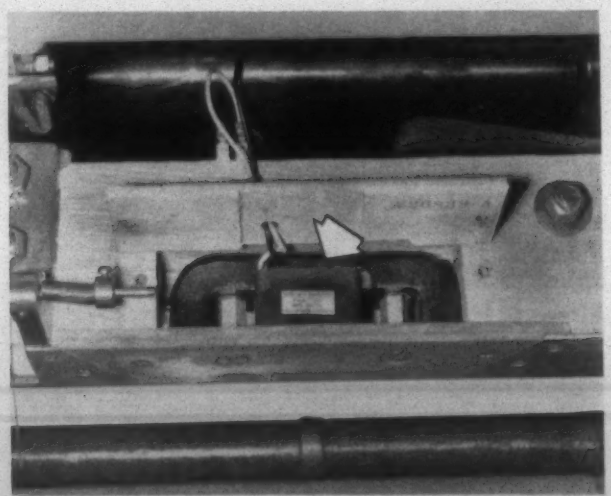
The C-7's shuttle checking device is a double-link binder which operates on an entirely new principle from previous C&K binders. The binder pivots about two links, Unibals, as the shuttle enters the box. The binder applies enough pressure on the wall of the shuttle to slow it down and eventually stop it.

Additional checking pressure is applied by the use of a strip of foam rubber between the cast aluminum binder and the leather strip attached to it. The rubber is of special consistency and is moisture and grease resistant.

When the shuttle is picked, the two links pivot so that the binder moves in the direction of the shuttle. Binder pressure is thus released. After the shuttle has left contact with the binder, a spring returns the binder to its normal position.

Use of the new type binder on the C-7 improves shuttle box changing because the spur of the shuttle is easier to get out of the picker. Looms can be run with less power because conventional binder pressure is not present to restrict the flight of the shuttle on the way out of the box. The double-link binder actually moves along with the shuttle for a pre-set distance on the pick.

Adjustment of the double-link binder is simple and requires the use of a wood block $\frac{1}{16}$-inch narrower than the shuttle width. The two screws holding the box-end binder in place are loosened and the wooden block inserted in the shuttle box. The screw located on the right is tightened with the leather binder surface just touching the wooden block. For the adjustment of the other screw, the same



A strong permanent magnet coil in the lay *(arrow, with lay open)* and a piece of transformer iron imbedded in the shuttle make up the most important parts of the C-7's protector motion.

procedure is followed with the exception that a slight amount of pressure is applied to the binder at the outside end.

Box-end binder settings apply equally as well to the drive-end adjustments. With the binder against the outer end of the lay, the inner angle bracket is positioned so that its link is parallel to the outside link. The bracket and the binder stand should be kept parallel to the lay when making this setting.

Pushbuttons

The weaver's pushbutton control stations are mounted on each end of the breastbeam and contain the start, stop and reverse pushbuttons. The brake release and single pick switches are mounted on the side of the station. The pushbutton control enclosure is gasketed against lint or oil and also serves as a junction box for wires going between the control cabinet, pushbutton units, filling stop motion, and other switches.

The C-7's clutch and brake magnets are mounted on the transmitter shaft located at the drive-end of the loom. The brake magnet is located immediately adjacent to the loom-side while the forward and reverse clutch magnets are located on either side of the large drive sheave. A three-section slip ring assembly provides power to the rotating clutch magnets.

Timing Switch

A rotary timing switch is attached to the drive-end loom-side and driven by a small chain from the crankshaft. This switch is really the "heart" of the control system—it determines whether the shuttle is picked properly, stops the loom after the shuttle is boxed, prevents reversing beyond back center, and cancels the filling stop motion before the first pick.

Stop motion switches are located at various positions on the loom. These switches include the filling stop switch and the box motion giveway switch. Each switch is wired normally open and held closed so as to provide a fail-safe feature if subjected to physical damage.

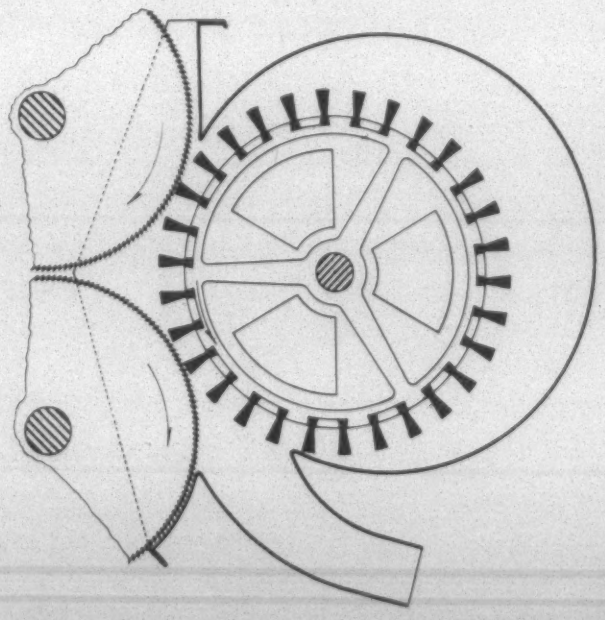
A New Doffer From U. S. D. A.

A new type of doffer for use in cotton textile mills, designed to perform two jobs instead of one, has been developed by U. S. Department of Agriculture utilization engineers. The device not only performs the work of a conventional doffer—removing lint from toothed cylinders used in preparation of cotton for spinning—but also provides air that conveys the cotton to the next stage of preparation.

The new doffer operates in connection with the teeth-covered revolving processing cylinders that pull apart the packed and matted fibers of the baled cotton—one of the first steps in the processing of cotton into finished cloth. It works as a centrifugal blower, with attached brushes functioning as blower blades. Air from the blower carries the lint along as it is removed from the processing cylinders.

An added feature of the new device is its ability to doff two cylinders simultaneously. Other doffers, covered with various materials including rubber or leather beaters, or metal teeth, doff only one revolving processing cylinder at a time. Engineers of the Southern Utilization Research and Development Division of U.S.D.A.'s Agricultural Research Service designed the doffer originally as part of a cleaning attachment to be added to the S.R.R.L. Cotton Opener and the S.R.R.L. Opener-Cleaner. The opener, developed in 1950 at the Southern Lab, and the Opener-Cleaner, developed in 1957, have had wide acceptance in industry.

The new doffer is covered by a public service patent assigned by the inventors to the Secretary of Agriculture. License to use the patent in the U. S. may be obtained without cost. Several such licenses have been granted already to manufacturers of textile machinery. The doffer is one of several new or improved machines and attachments developed at the Southern division to increase efficiency in textile mill operation—especially in the handling of machine-harvested cotton. Aside from its use in cotton mills, it also is expected to be useful in certain stages of cotton ginning.



Schematic drawing shows the new type of doffer developed by U.S.D.A. engineers for use in cotton textile mills. Operating in conjunction with the tooth-covered revolving processing cylinders that pull apart the packed and matted fibers of baled cotton, the new doffer also works as a centrifugal blower with attached brushes functioning as blower blades.—*(Photo courtesy U.S.D.A.)*

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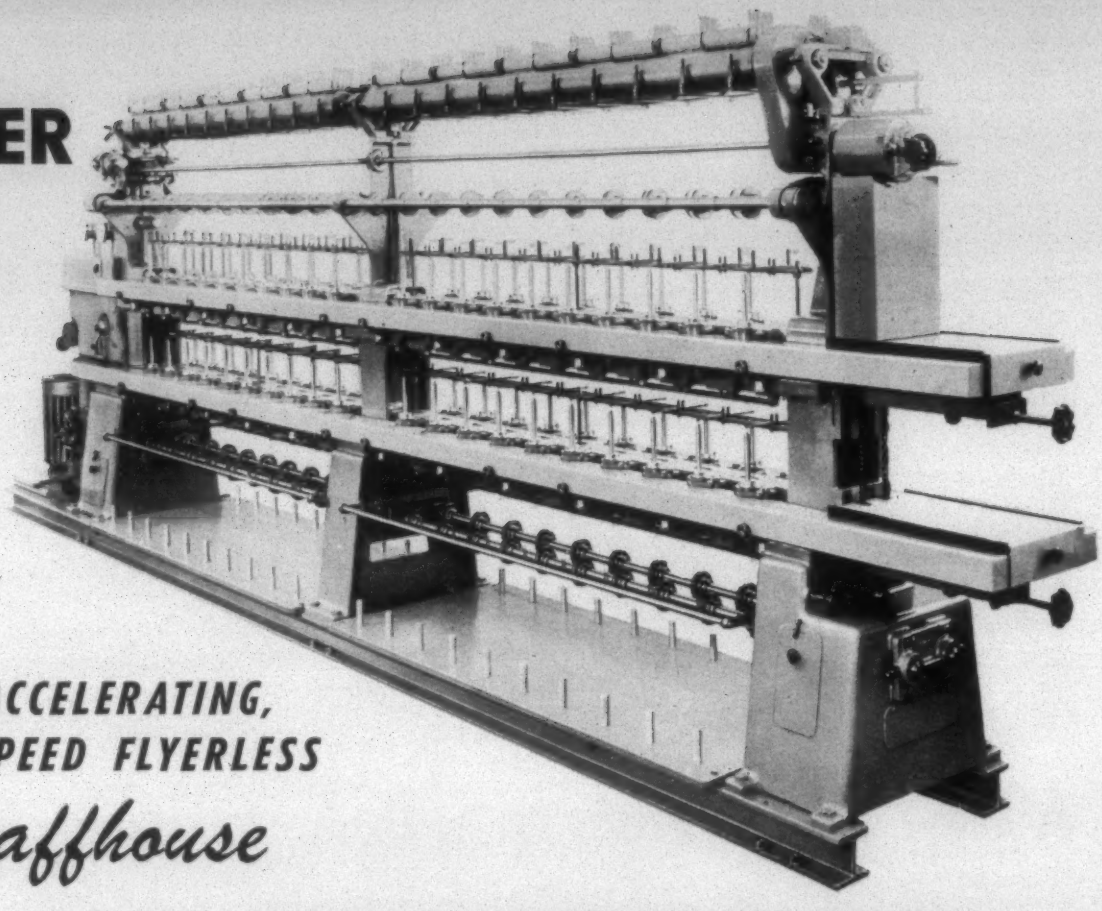

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AN HONORED NAME IN TEXTILE MACHINES SINCE 1903

Draper Issued Patent On Take-Up Device

AN improved fabric take-up for use on all types of fabric producing machines—looms and warp knitting machines alike—is disclosed in U. S. Patent No. 2,924,084, granted to George E. Clentimack and assigned to Draper Corp., Hopedale, Mass.

According to the patent, the take-up provides a constant uniform tension on the fabric and also provides varying take-up speeds in response to changes in tension in the fabric. This speed variation is governed by a spring or other resistive load functioning to balance a displaceable member in a reduction gear train to provide for compensating the increase in take-up roll size with a linear response. The drive mechanism is enclosed in an oil-tight casing except for a few externally mounted control members. It comprises a power input member positively rotated from some convenient part of the machine to which it is applied, an output means and a mechanism between these two for positively interconnecting them as a complete drive unit, but providing for speed variation or change of ratio of the output over the input.

In a preferred form of the mechanism, according to the patent, the output from the variable speed means includes a worm and gear reduction, the worm of which is displaced under load against the resistance of a spring the forces of which may be suitably adjusted. This control automatically corrects for more or less instaneous tendencies of the drive to fluctuate or for fabric tension to vary; also, if used to rotate a cloth roll on which fabric is wound, it constantly varies the speed ratio of the drive from start to finish of the winding of a roll of material.

In Fig. 1 the unit (27) is shown mounted on the loom-side (28) of a loom (only part of the upper front part is illustrated). The input side of the unit is driven from any convenient member of the loom, such as the main camshaft, by a chain (29). Take-up or sand roll (30) is connected to the side of the unit through a gear train including a pinion (31), gear (32), pinion (33), gear (34) and a gear (35) on the same shaft as the sand roll (30).

Fig. 2 is a top sectional view of the unit and Fig. 3 is a side elevation of the mechanism with the casing cover removed. Constant rotation is imparted to the input shaft (38) from the chain (29) while the output shaft (46) is rotated at a variable speed ratio in accordance with the amount of resistive load applied to it. The speed differential is determined by the position of the friction wheels (79 and 80) against the friction wheel (43). The friction wheels (79 and 80) are carried by differential gears (71 and 72) rotatably mounted on an axially movable shaft (55) which is urged to the left by a compression spring (61). The handwheel (67) may be rotated to increase and decrease the force of the spring (61) against the shaft (55) and the differential driving force applied to the wheels (79 and 80) determines the speed of rotation imparted to the shaft (55) and worm (54). The worm (54) imparts rotation to a worm gear (53), pinion (48), gear (47) and output shaft (46).

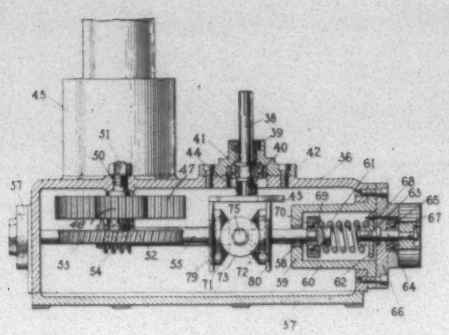


Fig. 2—Top sectional view of the take-up unit.

For any instantaneous condition, the device maintains a constant tension in the fabric being drawn and if there is a momentary tendency towards increased or decreased tension from the required value, the parts move either to right or left as the case may be to increase or decrease the speed of wind-up so as to maintain reasonably constant the tension value.

The tension in spring (61) is initially set by rotating the handwheel (67). For the actual difference in core diameter from start to finish of the average roll of fabric taken up, this spring will function very satisfactorily giving very close to a linear response in the device so that the tension in the fabric at the full roll condition will be substantially the same as that at the start and at intermediate points.

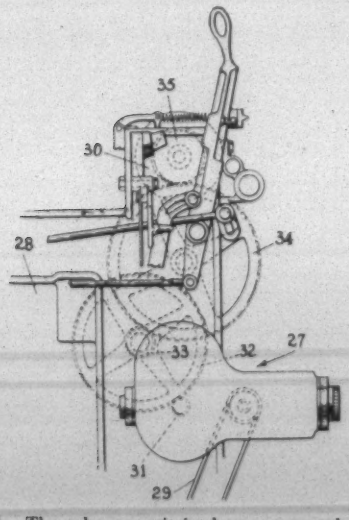


Fig. 1—The take-up unit is shown mounted on the loom.

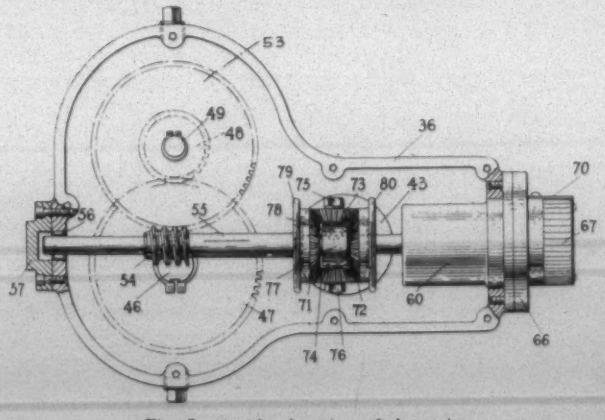


Fig. 3—A side elevation of the unit.

How To Evaluate Scratch Combing

SCRATCH COMBING MAY OR MAY NOT BE AN ADVANTAGEOUS UPGRADING PROCESS FOR A MILL HERE'S A WAY TO EVALUATE ITS USEFULNESS

PROGRESSIVE mill management is currently devoting much time and effort toward finding a practical way to cope with the problems created by ginners, who are interested solely in improving the appearance of the cotton in order to increase its sale price. Because of the U. S. government's unrealistic method of grading cotton and because of the subsidy program, the ginner cares little whether the resultant cotton gives satisfactory breaking strength, nep count and good spinning qualities. Moreover, with most of the domestic annual cotton crop mechanically harvested, the large amounts of leaf, hull, stalk, seed fragments and other impurities in the stock require better cleaning to spin a salable quality yarn.

Consequently, some mill people are giving serious thought to buying lower grades of cotton and then preblending and precleaning this cotton with the objective of producing a high quality yarn at a lower raw material cost.

Another prevalent point of view held by mill managements is to attack this problem of over-priced and gin damaged cotton by using low-noil combing to do the cleaning and blending in order to spin higher quality yarn from a specific grade of cotton.

Both systems have their advantages and disadvantages. In the last analysis the choice between upgrade combing and preblending will be determined by the individual mill's set-up and type of yarn spun.

Preblending

The preblending method requires a relatively small initial investment, inasmuch as little floor space is needed, and only a few hopper feeders and a blending machine are involved in the process. The limiting factor here is the rate of production. Only a minor degree of cleaning will be accomplished if the mill is to obtain the required production from a limited number of feeders. Therefore, with the lower grades of cotton which would be involved it would probably mean installing additional cleaning equipment in the regular cleaning line. This, of course, raises the problem of reduced breaking strength from extra beating and the possibility of an increase in the nep count due to the curling effect and other troubles which can develop in opening and cleaning equipment.

While the preblending method does statistically reduce the possibility of "good running" spinning one day and "bad running" spinning the next (because of variations in stock), it does not provide for any increase in breaking strength or any reduction in ends-down due to the elimination of short staple. Preblending is a subject within itself and is only touched upon here for comparison purposes.

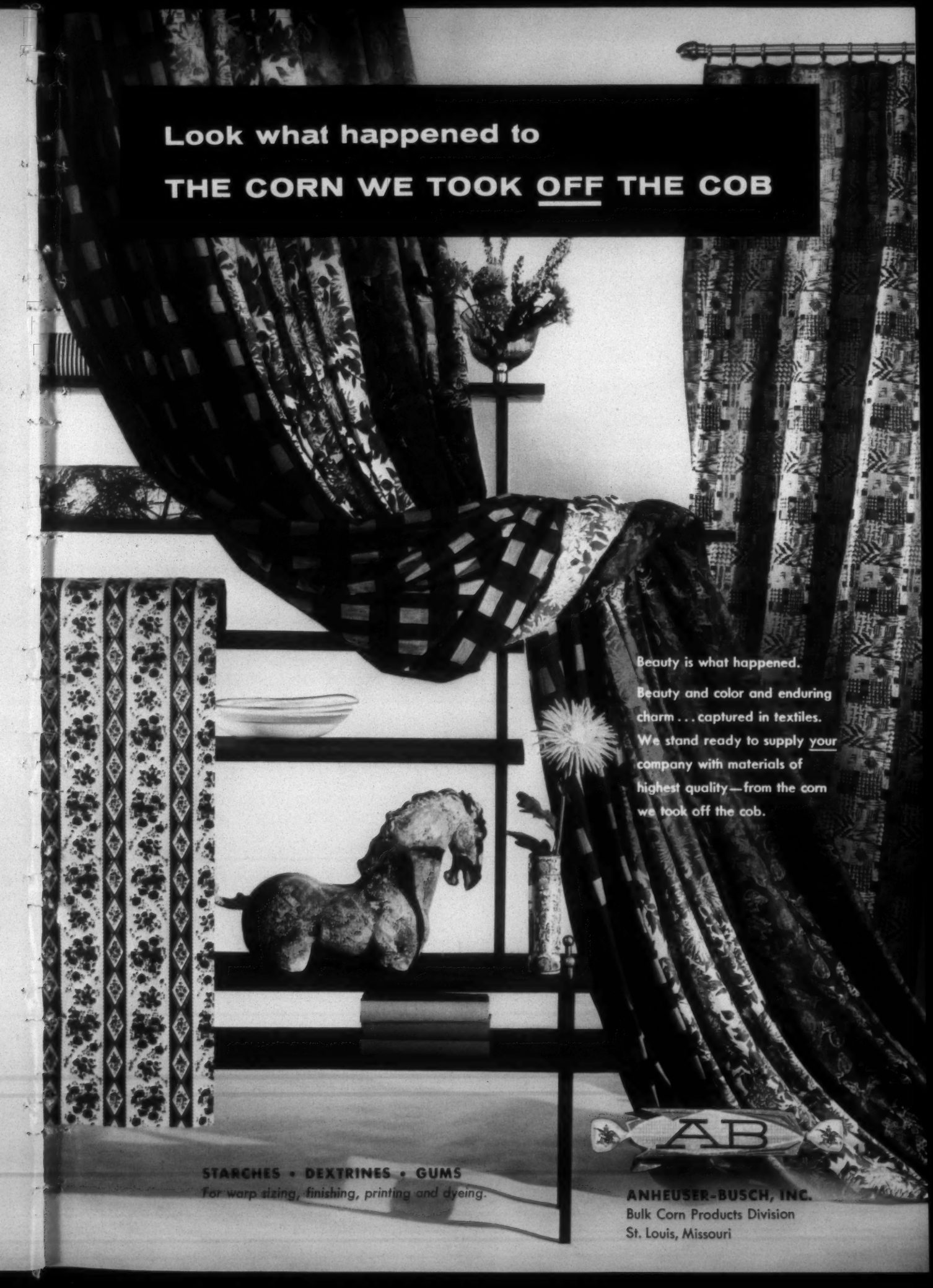
This installation uses Saco-Lowell's type of scratch combing known as Upsheen to up-grade a lower grade of short cotton, in order to produce a good quality 22s yarn. The mill utilizes scratch combing very profitably because close control of noil removal is constantly maintained by a single, simple attachment to the comber which regulates the setting of the nipper to the detaching rolls.

Advantages Of Scratch Combing

"Scratch combing" for upgrading, in most cases, calls for a larger capital investment, since combers are more expensive than hopper feeders. Also, it is true that there is a higher labor cost in a combing operation, but figures to date indicate that a low-noil, high-production combing operation can be performed at approximately .6 cents per pound for labor cost.

Surprisingly few textile technicians are fully aware that the comber is one of the most natural blending machines found in the mill. Since there are six laps on each side of the most prevalent comber (Saco-Lowell), with 20 ends per lap, there is the possibility of 120 bales feeding one can. Probably the mill would place eight such cans behind the post-comber drawing, and end up with a possible mix of 960 bales.

In addition, the comber is one of the best machines for removing neps which may have been previously formed in the opening, picking and carding operations. Moreover, the noil per cent can be adjusted to correct any variations which might have developed in prior feeding, cleaning or processing. Also, there is assurance of an increase in breaking strength due to the removal of the very short fibers. The yarn would definitely be much cleaner because the half lap and top comb will have removed most of the finer trash. Another important benefit is that higher drafts are possible when running combed stock. Card room costs would be considerably reduced because of higher card pro-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duction requiring fewer cards. There would also be lower waste at the card and consequently less good fiber lost. It is a proven fact that cleaning costs and reworkable waste are reduced in post-comber operations because of the elimination of fly and foreign particles taken out by the combers.

All of these advantages of "scratching" appear to be very attractive economically to those mills whose major operating expense is the cost for raw cotton. However, there are serious pitfalls, and if these dangers are neglected scratch combing will defeat the very purpose for which it was designed.

Inherent Dangers

For any combing operation to be profitable, it is essential that there is a minimum of spinnable fiber lost, a close control of the noil, and an economic production per man-hour. This maxim applies particularly to scratch combing processes, where production must be constantly maintained at a very high level and noil removal at a very low level if the benefits of upgrade combing are to be realized. In calculating the cost of any combed goods, one of the most important factors in the cost equation is the cost of the noils. A slight variation in this detail can create a serious profit leak.

Assume that the cost of the cotton in the lap at the back of the comber is $.42 per pound, the standard noil extraction is 9% and noils are worth $.20 per pound.

$.42=cost of 1 lb. of cotton in lap at the back of the comber

9%=standard noil extraction

$.20=price of noils per lb.

.09x$.20=$.018 value per lb. of 9% of stock in combed sliver

$.42—$.018=$.402 value per lb. of 91% stock in combed sliver

$.402x1/.91=$.44—value per lb. of stock in combed sliver

$.44—$.42=$.02—cost of noils

In this case, the cost of the stock in the comber sliver, exclusive of any combing costs, will be $.44 per pound, thus increasing the value $.02. Should the noils reach 9½%, the cost of the noils will be $.023; at 10%, the cost will be $.024. Assuming that the comber is producing 58 pounds per hour, in a 6,000-hour year, the total production of sliver will amount to 348,000 pounds per comber, which in turn is derived from 395,455 pounds of stock at the back of the comber, on the basis of 9% noils. Should the noils exceed the standard by .5%, the poundage will increase at the back of the comber by 2,260 pounds of cotton costing $497.20 per comber. If the noilage, unnoticed, goes to 13%, this extra weight of back stock will approach 4,546 pounds, costing $1,000.12 per comber.

The "profit" leak in the first instance with $.42 cotton and $.20 noil will amount to $497.20, and in the second case it will amount to $1,000.12.

This simple illustration shows the very great weight which the percentage of "noils" exerts on the cost of the combed yarn, and it is presented to show in a simple manner the great importance which must be given to a precise and continuous control of the waste percentage when operating a modern, high-production comber. For this reason, the mill should consider only those upgrading combing processes which provide close control of noil.

The Loomfixer And His Job

Part Seventeen

THE SETTING AND TIMING OF THE HARNESS AFFECTS BOTH CLOTH QUALITY AND LOOM OUTPUT

By WILMER WESTBROOK

ONE of the most exacting tasks of the loomfixer is that of setting and timing the harnesses. Since the harnesses separate the warp yarn into two or more sheets to form a shed through which the shuttle can pass and deposit the filling yarn, their timing is important in the operation of the loom.

Theoretically, all that is required of the shedding motion is that it change the position of the various sheets of warp yarn while the shuttle is in the box and have the shed open when the shuttle is picked.

The shed should be fully open when the shuttle enters it and should not begin to close until the shuttle enters the opposite box. A good setting for the average plain weave is to have the harnesses level—and the shed closed—when the crank arms reach bottom center position. The reed will be located about 2½ inches from the fell of the cloth with this setting. Some weaves will require an earlier setting and for some a later setting will be best.

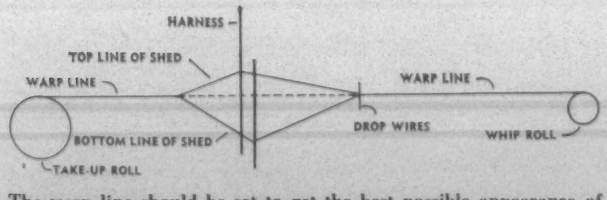
The timing of the harnesses will affect the cloth in several ways. When the shed closes on the filling, this yarn is caught between the two crossing sheets of yarn. As the reed pushes the filling against the fell of the cloth and the warp yarn closes behind it, both the warp and the filling yarn are placed under tension and the individual threads stretch and bend before settling into place. The yarn is also chafed by the reed and by contact with other ends of the yarn.

For some weaves an early timing is desirable because the extra chafing raises the fibers of the yarns and imparts a softer, smoother appearance to the cloth. But the chafing also weakens the yarn and a later timing is necessary for some weaves to prevent excessive end breakage.

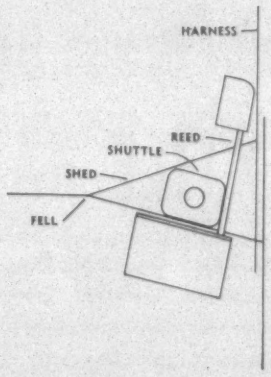
If both the top and bottom lines of the shed are under the same tension the cloth will have an open, reedy appearance. To offset this condition the warp line—a line from the top of the whip roll to the top of the take-up roll—is higher than the center of the shed. This causes the bottom line of shed to be tighter than the top line.

When the filling yarn is pushed against the fell of the cloth the warp ends in the top line of shed will bend more than those in the bottom line and the filling will have a tendency to pile up on the preceding end of filling.

On the next pick the warp yarn in the top and bottom lines of shed will change position and the process will be repeated. Each line of shed is alternately slack and tight with the slack yarn always in the top line. For weaves using three or more harnesses the usual order is one harness down and the others up.



The warp line should be set to get the best possible appearance of the cloth with a minimum of strain on the warp yarn.



The shed should be large enough for free passage of the shuttle and should be fully open when the shuttle is picked.

Raising or lowering the warp line will greatly affect the appearance of the cloth. But the warp line should not be raised indiscriminately to improve the appearance of the cloth without taking into consideration the added strain on the warp yarn.

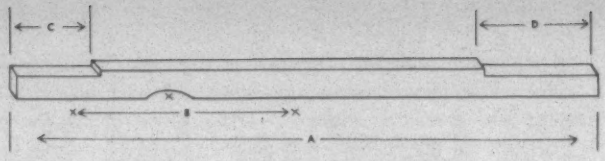
An extremely high warp line can cause excessive end breakage in the bottom line of shed and can cause the ends in the top line to be so slack they will not weave properly and may even cause the shuttle to fly from the shed.

The loomfixer must learn the best settings for his looms and for the kind of fabric that is being woven. The settings must be devised to produce cloth with a good cover or face and also settings that will not cause excessive end breakage and loom downtime.

Make a gauge and set all looms alike that are of the same type and are producing the same kind of cloth. This gauge can be made from a wood slat with notches cut in it for the various settings.

The stop motion girts should be raised or lowered with the whiproll to keep the yarn as free as possible as it passes through the drop wires.

The shed should be only large enough for free passage of the shuttle—about ½-inch clearance between the top of the shuttle and the top line of shed is sufficient. The size of the shed is determined by the size of the cams, the position of the stirrups on the treadles or jack levers, and by



A gauge for setting shedding motion parts—A: distance from beam bearing cap to bottom of whiproll. B: measuring points for take-up roll are breast beam, take-up roll and lay. C: distance from fell of cloth to reed with harnesses level. D: height of stop motion girt.

the distance from the harnesses to the lay when it is in back center position.

If the loom is equipped with a tape selvage motion the selvage should be set and timed same as the regular harnesses.

The bottom line of shed in the front harness, including the selvage, should just clear the shuttle race with the shed open and the lay in back center position. Each succeeding harness, from front to back, should be progressively a little higher above the shuttle race.

Setting and timing the harnesses, regulating the size of the shed and locating the warp line are problems that are best worked out at the local level. The experienced loom-fixer should have little trouble arriving at the best settings for the looms on his job.

Clemson To Offer Short Summer Courses

A short course program for personnel in textiles and related industries is being offered again this Summer by the Clemson College School of Textiles.

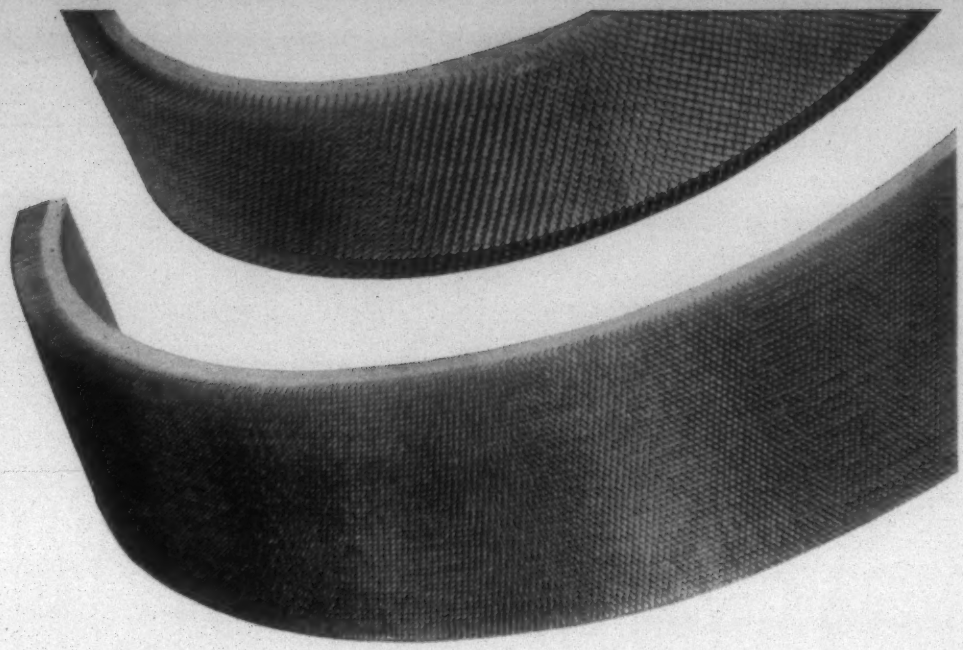
The Summer program schedule lists six courses. Each will continue three weeks from the starting date. Morning hours will be devoted to lecture periods, afternoons to laboratory and library work. No entrance examinations will be required for any of the courses, but a high school education is almost essential. No college credit will be given for any of the courses, but certificates will be awarded.

June 13 is the starting date for the following three courses: (1) "Yarn Manufacturing," designed for persons who have selected textiles as a career. Ideal preparation for a training program, the course will include a study of raw materials, blending, theory of yarn production and the importance of technological advances. (2) "Supervisor Development," planned for supervisors and potential supervisors. Basic areas to be covered are the new employee, plant morale, complaints, incentives, how to instruct, reports, work schedules, planning, self development, text books and reading. (3) "Cotton Classing," a review of the accepted rules and standards. Students will consider samples under guidance of an instructor who will class the samples and explain points of difference.

"Fabric Development" and "Motion and Time Study" will be offered, beginning July 11. In "Fabric Development," the principles of loom operation and the designing of woven textile fabrics will be studied. Both basic motion and time study principles plus the more recent techniques will be covered in "Motion and Time Study." The course will include theory classes and laboratory experiments.

Starting date of the "Quality Control" course is August 15. This course begins with basic statistical theory and calculations and will include a survey of control charts found in industry.

Interested parties should contact Dean Gaston Gage of the Clemson School of Textiles.



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A boss carder in a large mill writes, "We save on grinding costs because Tuffer is so accurately ground we can put it on the cylinders as it comes to us."

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591

Opp Cotton Mills Meets Its Challenges

FACED WITH RISING COSTS AND STIFFER COMPETITION OPP MODERNIZED MACHINERY AND DIVERSIFIED OUTPUT

IN the early 1950s Opp Cotton Mills, Opp, Ala., found that its growth potential was contained by the prongs of a giant pincers. On one side the mill was faced with generally spiralling labor costs. On the other, the mill found its primary product, Class B sheeting, was bucking increasing amounts of low-wage foreign-made goods in the marketplace, and was being displaced by the technology of chemicals and materials which are non-textiles.

Lyon

Sayers

F. M. Lyon is president of Opp. Lester Sayers is general manager.

The mill is meeting these challenges with a two-pronged program: (1) modernization of machinery to offset the effect of increased wages (up 46% during this period) and to reduce cost factors to their barest minimums; and (2) diversification of output using man-made fibers and blends to spread goods in markets less severely affected by imports, and those of more enduring demand.

The company's modernization program has leaned heavily toward: (1) big packages in all departments; (2) high speeds; and (3) improved raw stock testing and blending procedures. Features of the diversification program include running blends of cotton and man-made fibers for men's trousers and outerwear. Weighing hoppers have been added to opening room equipment, and pickers and cards have been modified for running the man-made fibers.

Opp maintains an average Micronaire blend of 4.0. A bale lay-down consists of 48 bales with 24 bales being fed to each of the two lines of hoppers. The mill reports that the system of blending has eliminated most of the ups and downs of spinning ends-down-per-thousand-spindle-hours.

Opp's three opening lines consist of 13 Hunter weighing hoppers. Exact blends are gotten by setting the hoppers to deliver the desired proportion of fiber onto a feed table. A tint is sprayed on the made-made fibers on the feed table for identification purposes in later processing.

Fiber Testing

In addition to the fineness test on every bale, the company tests 10% of all its cotton for fiber strength using the Pressley tester. Whenever a new mix of cotton is introduced into the mill, Pressley tests are run every day. When sources of cotton are changed, the mill tests for Cavitoma using the Gramercy Universal Indicator and also a chemical spray method.

Big Packages

Considerable increases in pounds processed per man-hour have been possible for Opp through the use of large packages in all preparatory processes. For example, the mill's pickers make an 85-pound lap; cards have 18-inch diameter coilers and 42-inch cans; drawing has 16x42-inch cans; roving frames have cone changeovers to allow 32 ounces on 10x5 packages; and spinning frames have been equipped with unique stop motions assuring uniformly full bobbins going to spoolers and looms.

The mill has five pickers—four Saco-Lowell and one

Opp blends its cotton and man-made fibers with Hunter weighing feeders. Some man-made fiber blends are spray-tinted on the opening line's feed table.

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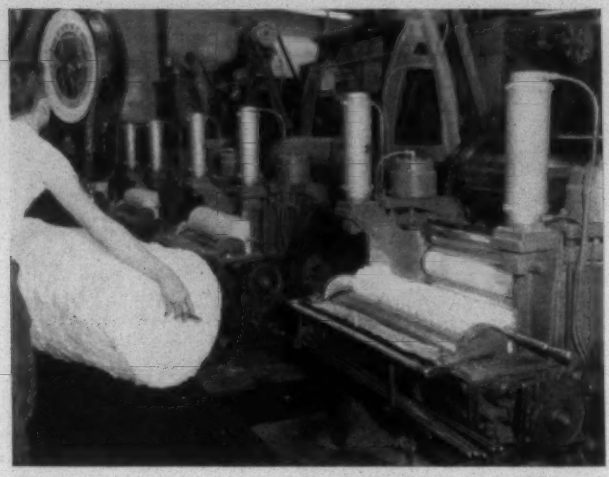
Kitson — each with two-blade beaters in the back section and Kirschner beaters in the front section. The automatically controlled Saco-Lowell pickers are fed through feed chutes and have blending reserves. The Kitson picker has a blending hopper on the back and is used for running man-made fibers and blends.



The use of pneumatic rack controls permits Opp to make 85-pound cotton picker laps. Pickers produce 445 pounds per hour and make 16-ounce per yard cotton laps.

All Opp cards have 18-inch diameter cans with a capacity of approximately 30 pounds. Some of the cards have Swedish hardened-point wire clothing and some have metallic clothing.

Opp's 32 breaker and 32 finisher drawing deliveries run 70-grain sliver at 300 feet per minute. The frames have 16x42-inch cans holding some 28 pounds of sliver.

All five pickers are equipped with Long pneumatic lap controls allowing the production of 85-pound cotton laps. On Arnel, the Kitson picker makes a 55-pound lap with pneumatic controls. The pickers are set up to produce 445 pounds per hour on cotton. Laps weigh 16 ounces per yard. With the conventional type lap control racks the mill made 50-pound laps. Before the changeover the picker room ran three 6½-hour shifts with opening and picker tenders mopping cards the remaining 1½ hours per shift. Since making the change to big laps, the picker room runs only two shifts. Reduction in lap hauling and laying has saved the card tenders enough time to do their own mopping.

Opp has 145 Whitin, Saco-Lowell and Mason cards. The cards are equipped with Saco-Lowell mechanical strippers and McDonough 18-inch coilers. Card cans have a 30-pound capacity. Card tenders run 73 cards. Cards produce a 70-grain sliver, are stripped three times per shift, net 9.2 pounds per hour, are ground on a 400-hour schedule and have conventional wire clothing. Some of Opp's cards have Swedish hardened point wire which requires a light grinding only once every three months. The mill also has a number of cards with metallic wire.

High Speed Drawing

Several years ago the mill replaced all its old drawing with Whitin EvenDraft. The frames were said to be one of Whitin's first major installations of this model drawing. The 32 deliveries of breaker and 32 deliveries of finisher drawing runs at 300 feet per minute and has Pneumafil roll clearers. The 16x42-inch cans on the drawing frames hold some 28 pounds of sliver. A yardage counter puts a predetermined length of sliver in the cans. Finisher drawing weighs 70 grains per yard. These frames can be modified to run 400 feet per minute.

Four Counts Roving

Opp has 14 roving frames and makes four counts of roving—0.75, 1.00, 1.25 and 1.75—for all its spinning counts. All of the frames are Whitin Interdraft except one Whitin Long Draft frame used for running man-made fibers. The frames have 108 spindles and 10x5 packages holding some 26 ounces of stock. Two of the frames have been equipped experimentally with Whitin's cone changeover. With no other changes whatever, these frames' 10x5 packages hold 32 ounces of stock.

The flyer speed on all of Opp's roving counts is 1,000 r.p.m. The speed of the 1⅛-inch front rolls for the four counts is:

Hank Roving	Front Roll Speed
0.75	227
1.00	196
1.25	166
1.75	135

All of the roving frames have Pneumafil vacuum ends-down collectors and Pneumastop.

Spinning

Opp has a total of 26,596 spinning spindles with 15,268 spindles on warp and 11,328 spindles on filling. The warp

frames have four-inch gauge, 2¼-inch rings, 9½-inch bobbins and No. 1 flange rings. The average warp count made by the mill is 20s which runs at 9,400 r.p.m. spindle speed. Opp's filling frames have 3¼-inch gauge, 1⅝-inch rings, 8¾-inch quills, and double flange rings. Average filling count is 18s, run at a spindle speed of 8,600 r.p.m.

Except in special cases, all spinning at Opp is single creel. Counts of yarn spun from various hanks of roving are:

Hank Roving	Yarn Count
0.75	up to 15s
1.00	15s to 20s
1.25	25s to 30s
1.75	special double creel up to 25s

Opp's warp frames are doffed on cycles. The stop motion, invented and built by one of the spinning room supervisors, stops warp frames on combination build when a specific diameter has been reached. The unit not only provides for a smooth frame-to-frame doffing cycle but also assures uniform packages for the company's Barber-Colman spoolers.

Applied to filling frames, the stop motion stops the frame at a specific position when the quills are full. Under or over-runs are eliminated completely. A second stop motion lets the doffer pull the frame down but prevents too many wraps being put on the base of the quill. This feature assures a small and uniform number of wraps to be pulled off by battery fillers. The stop motion actually helps reduce mispicks and broken picks by causing the end of filling coming off the quill after it has been plugged in the battery to always be very near the tip. Use of the warp and filling stop motions has allowed increases in both spooler tender and battery filler production.

Drills, Twills and Sateens

The bulk of goods woven at Opp consists of drills, twills, sateens, bedford cords, soft-filled sheetings and Class B sheetings. The mill has 677 Draper cam looms whose width, model and speeds are:

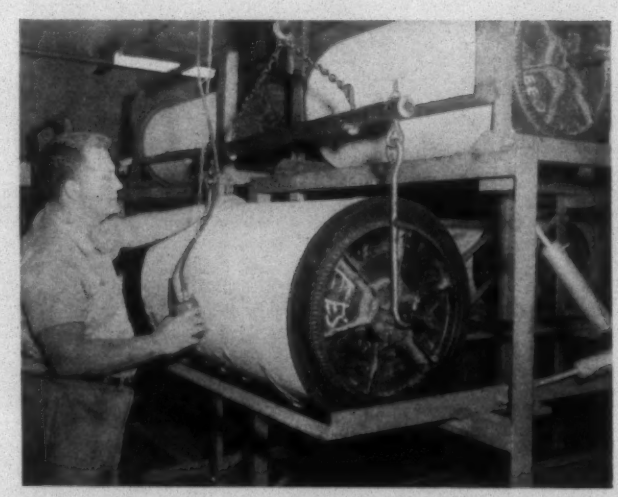
No. Looms	Width (inches)	Model	Speed (p.p.m.)
240	40	X-2	192
180	40	X	182
100	44	X-2	182
157	50	X-2	172

Opp uses Bennett-Rose filling boxes on its looms. The filling spinning frame doffer doffs into these boxes, places his number on the box and sends it to the weave room where it is mounted directly on the loom. Handling of filling is thus greatly reduced. Other advantages of this method include reduction in filling contamination, improved battery filler efficiency since all quills are headed in the same direction, positive identification of filling frame and doffer in case anything is wrong with the doff, and virtual elimination of mixed filling.

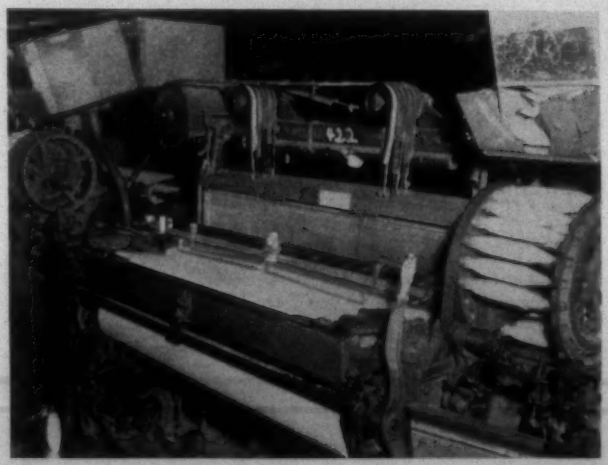
The current textile market is generally strong and according to F. M. Lyon, president of Opp, the company could do better as far as profits are concerned giving up any ideas of development of new fabrics and continue to make low-end goods as in the past. However, the company had rather continue the work, spend money for research and training, and thus prepare for a more diversified market.

A good year in 1960 has been predicted for Opp and the textile industry. The company's unfilled order position in December 1959 was reported to be greater than at any time since 1951.

Man-made fibers are run on this Whitin Long Draft roving frame. Opp runs cotton roving on Whitin Interdraft frames. All frames have 10x5 packages.



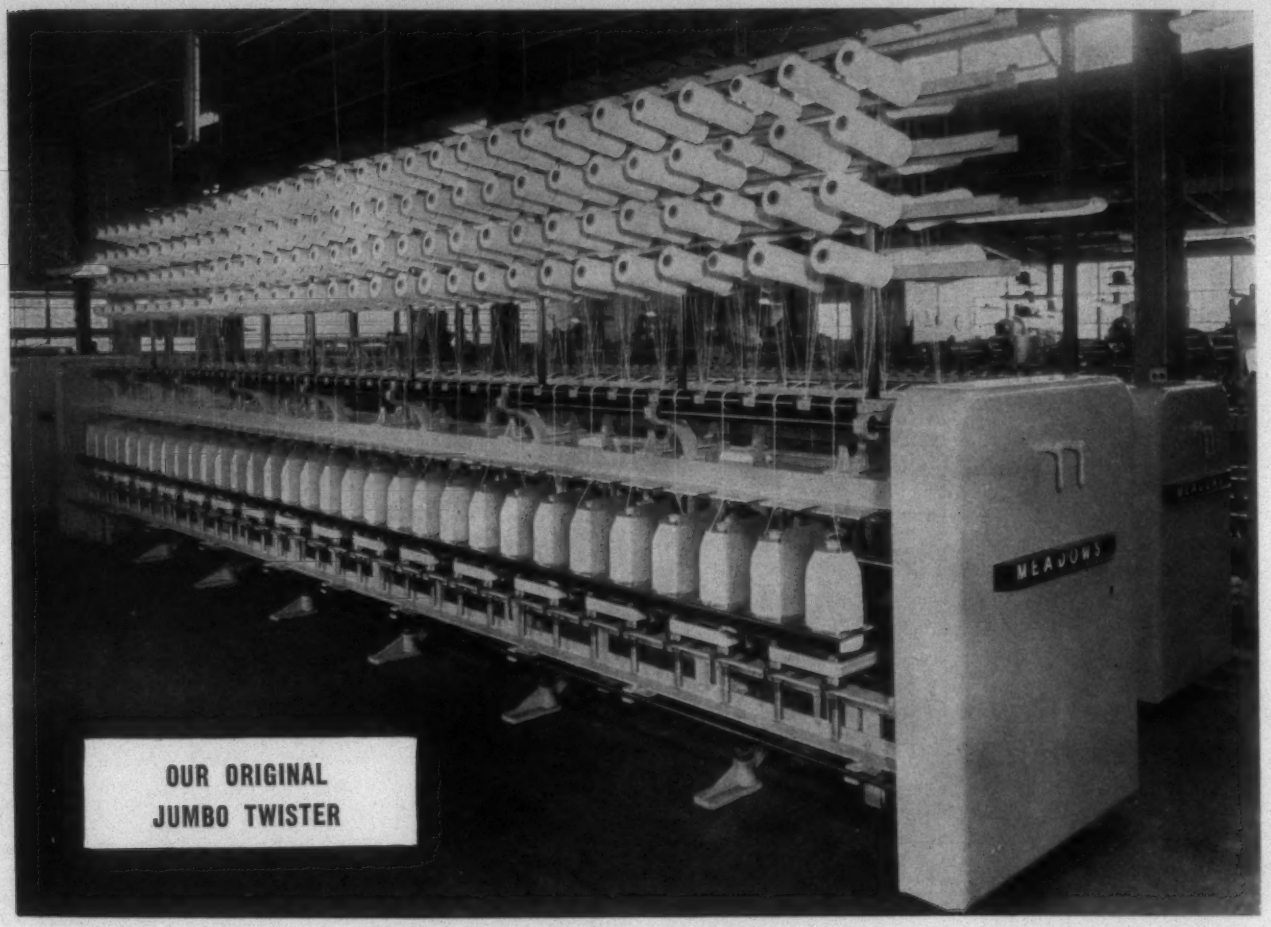
Opp's warp beam storage rack has counter-weighted extension arms for easy beam transfer to and from the hoist.



Drills, twills, sateens, bedford cords, soft-filled sheetings and Class B sheetings are run on Opp's 677 Draper X Model cam looms.

It's easy to imitate
but hard to get the same results

MEADOWS *anti-friction* RING TWISTER
IS STILL FIVE YEARS AHEAD OF THE FIELD



FIVE years ago we engineered and pioneered the original completely anti-friction Ring Twister. Having rebuilt other peoples' twisters for 25 years, we knew the weak spots and how to correct them . . . and we did.

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Other twisters can be run at high speeds, but have not attained the speeds together with the operating efficiencies, nor the quality of production which Meadows supplies.

Meadows Twisters adapt readily to such unusual fibers as glass and paper, as well as combed or carded cotton; wool; rayon, nylon or other filament yarns and spun blends.

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ATLANTA 10, GEORGIA

The Designing Of Pile Fabrics

PLUSH FABRICS HAVE MANY USES RANGING FROM UPHOLSTERY TO CLOTHING INNER LININGS

By E. B. BERRY*

Chapter 5

The Mohair Weave

WHEN better pile anchorage is required than is found in the 6-pick W tuft toy fur weave (discussed in Chapter 4) the 8-pick W tuft mohair weave is used. Fig. 25 illustrates this weave, drawing-in draft and cross section. In this case there is a pick inserted between the legs of two adjacent pile tufts. When a slippery fiber such as mohair is used and pressure is applied from the pile surface, the two legs of adjacent tufts will not rub against each other as in the case of the toy fur weave. In order to get sufficient coverage with this weave more picks per inch are required because it takes four picks for each pile tuft. Cover factor enters the picture here and the necessary picks per inch, to obtain sufficient coverage, cannot lay side by side in a plane. In order to get the necessary picks per inch, the filling is put in two planes, one layer above the other. A tight backing yarn weaves with very little contraction (6% to 8%). A slack backing is then used to interlace the two planes of picks, and this will have a relatively high contraction (30% to 50%). The anchorage here is so good that even when a slippery fiber like mohair is used the fabric need not be coated on the back.

The relationship of pile, bottom backing and top backing harness are the same as in the velour weave and for the same reason. Two adjacent pile ends are reeded in the same dent and for the same reason as was done in the toy fur weave.

Sometimes, in order to obtain additional weight in the fabric, two tight backing ends are woven in place of the one shown in the weave. In this case no additional harness are necessary. The second end is drawn through the same heddle eye as the first tight backing end making a total of two ends per eye.

A loom set up to weave this fabric must have four pile harness: two for the pile ends that cross on pick four and two for the pile ends which cross on pick two. The weaving of alternate odd and even dents eliminates rows or ridges of pile from selvage to selvage which would occur if all dents were made to weave as odd or even. The ground weave is plain to prevent rolling of the pile tufts and to allow the tight end to weave between the picks creating two horizontal planes of picks.

*Mr. Berry is an assistant professor in the department of fabric development at North Carolina State College School of Textiles.

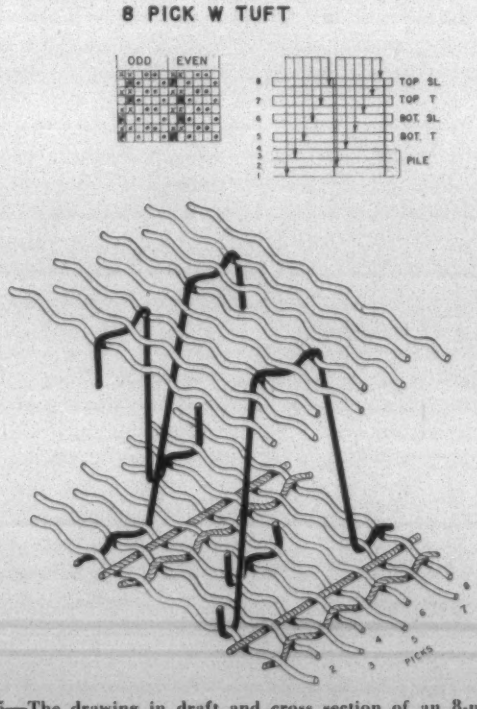

Fig. 25—The drawing in draft and cross section of an 8-pick W tuft mohair weave which provides better pile anchorage than is found in the 6-pick W tuft toy fur weave.

Delivery Calculations

Fig. 26 shows the cross section of a mohair plush weave. From an actual analysis of a fabric, a tuft measured .40″ in the finished cloth, with 50 picks per inch. There is a pile tuft every four picks, so the finished delivery is:

$$\left\{\frac{.40''}{4}\right\} \times 50 = 5.00 \text{ yards DELIVERY}$$

Shearing instructions for this type of fabric are different from either the velour or toy fur. Generally .005″ is taken off in the greige and .010″ is taken off in the finishing. The tuft then from the loom would be .43.″ (.40″ + .005″ + .005″ + .010″ + .010″). A one-pick shrinkage from the loom to finished cloth is assumed. The greige delivery will be:

$$\left\{\frac{.43''}{4}\right\} \times 49 = 5.27 \text{ yards DELIVERY}$$

Commercial Standard

Mohair pile fabrics are covered in CS-52-35. The pur-

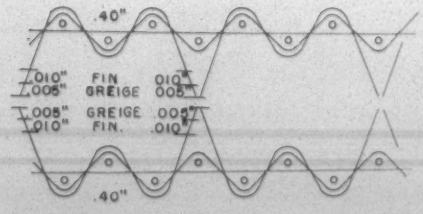

Fig. 26—The cross section of a mohair plush weave with a pile tuft every four picks.

pose of this commercial standard is to establish standard specifications and methods of test for mohair upholstery fabrics for the guidance of producers, distributors and users, and to provide a uniform basis for guaranteeing quality through the use of labels or certification.

Some requirements are as follows:

Material of pile—100% genuine mohair.

Tufts—Not less than 225 pile tufts to a square inch.

Weight—Not less than 0.70 lbs. of mohair per linear yard, 54" wide, exclusive of selvages.

Finishing

Following is a typical mohair plush flow chart:

(1) Weave
(2) Measure
(3) Greige Inspect
(4) Mend and Burl
(5) Greige Storage
(6) Greige Shear
(7) Dye
(8) Finish—wet-out, extract, mothproof, extract, tiger, dry, shear, brush, press
(9) Condition or Humidify
(10) Finish Inspect
(11) Color Match
(12) Roll and Wrap
(13) Ship.

Mohair pile is used for such things as furniture upholstery and buffing rings in shoe repair shops. A unique

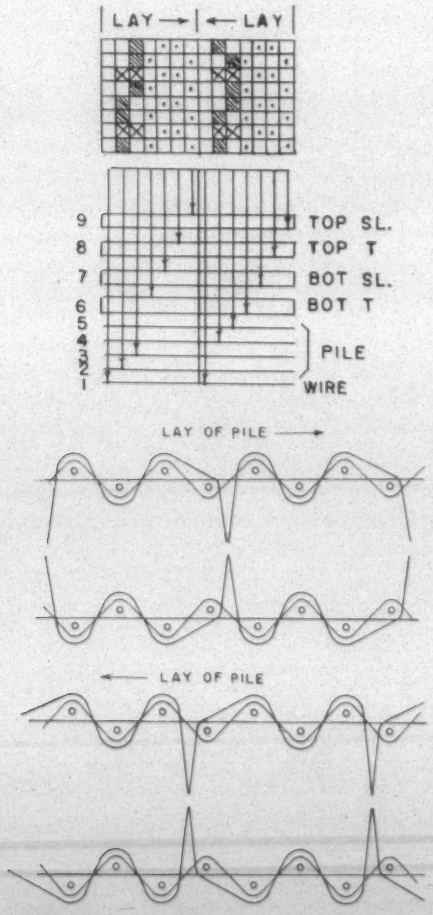

Fig. 27 & Fig. 27A—A method of weaving tufts that will lay in opposite directions.

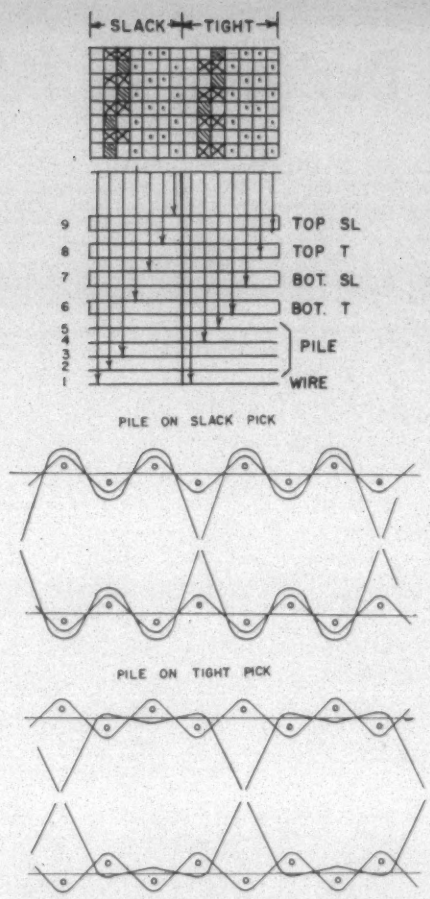

Fig. 28 & Fig. 28A—An 8-pick W tuft weave with the pile tufts moved up one pick to weave on the "tight" pick.

end use for the mohair fabric is listed under Boston Quartermaster Corp Specification No. 44-B. The fabric purchased under this specification is used on the underside of skis used by our ski troopers.

This specification reads in part, "Pile shall be given a permanent panne finish with the pile laying in warpwise direction so that the finished climber will offer resistance to backward motion.—Pile shall be so panned that the set of the pile shall not change through constant wetting of cloth.—Pile shall be 100% Mohair.—Pile tufts per square inch not less than 282." The 8-pick W tuft weave is used for this fabric. Mohair pile is used for its resiliance and durability.

Dyeing Of Mohair

A medium quality mohair fabric will generally be woven with all natural yarns at the loom and union piece dyed. The top quality mohairs for home and pullman or airplane seat coverings will generally have a dyed cotton warp and filling. In many cases it will be sulphur dyed black or a naphthol maroon (because there is no good sulphur red). Such fabrics then are still piece dyed by using acid colors to dye the pile only. In this case the dyeing is much more resistant to fading and crocking. Such mohair fabrics are extremely vulnerable to moth attack, and when used in the home may have to be mothproofed due to customer demands. It is advisable to use a chemical which will render the mohair fiber inedible to moths rather than render the fiber poisonous so that it will kill the larvae after they have

eaten it. In the latter case the larvae will be destroyed but so will the fabric. On very deep shades it is rather difficult to obtain a good mothproofing job. The mohair fiber is similar to a blotter in that it can absorb just so much dye and mothproofing agent. If the shade is deep, the fiber will be saturated with dye and cannot receive the necessary amount of mothproofing agent to give sufficient moth protection.

In most cases the guarantee for mothproofing of upholstery fabrics is very broad. It covers the replacing of the damaged fabric, as well as the labor to reupholster the chair or other furniture. It is possible for the mill to purchase an insurance policy to cover such loss due to moth damage. An alternate plan is to put away a reserve in cash for each yard sold. This special fund is used to cover claims made against the mill due to larva infestation.

Pressing is important in this finish. The fabric is rather thick with a fairly high pile. When 50 to 60 yards are rolled, without pressing, the roll is spongy, and will "telescope" in shipping. Pressing will help make a more solid roll that will not be damaged in transit.

Variations

There are two basic variations of plush:

(a) Pile lay is all in the same direction when it is pressed. It is possible to weave tufts that will lay in opposite directions. Fig. 27 and Fig. 27A show how this is accomplished. Shown is only one dent of each. It can be woven on a loom equipped with a jacquard head having the background pile lay in one direction, and the figure woven to have the pile lay in the opposite direction. The use of stationary pile gauge wires help in the weaving of this fabric. These wires are approximately 26 inches long and are attached to a bracket in the center of the loom. They go through stabilator heddles which are mounted on the first harness frame. This frame does not move. The wires are drawn through the reed and extend about three to four inches into the cloth. The height of the wires govern the pile height and the pile delivery change gear must be calculated to give the correct delivery. If too much yarn is fed, the wires are of no value; if too tight, the wires will be bent sideways, and may make ridges in the cloth, as well as rub the reed.

(b) In the regular 8 pick W tuft, all the pile tufts weave on the so-called "slack" pick. By moving the pile tufts up one pick, it is possible to have them weave on the "tight" pick. Fig. 28 and Fig. 28A show this weave. A pile gauge wire is used here. Since each pile end delivers the same amount of yarn, when the tuft is made on the tight pick it will appear longer and create a different effect in the cloth as when it is woven on the slack pick. This different effect can be made into stripes, checks or even into a jacquard design.

1958 Wool Carpet And Rug Statistics Show 2% Decline From 1954 Totals

During 1958, adjusted value added by manufacture in the wool carpet and rug industry amounted to $181 million, a decrease of 2% from 1954, according to preliminary results obtained from the 1958 Census of Manufactures conducted by the Bureau of the Census, Department of Commerce. Average employment in the industry showed a decrease of 17% from 1954 to 1958 to a total of 25.1 thousand employees in 1958.

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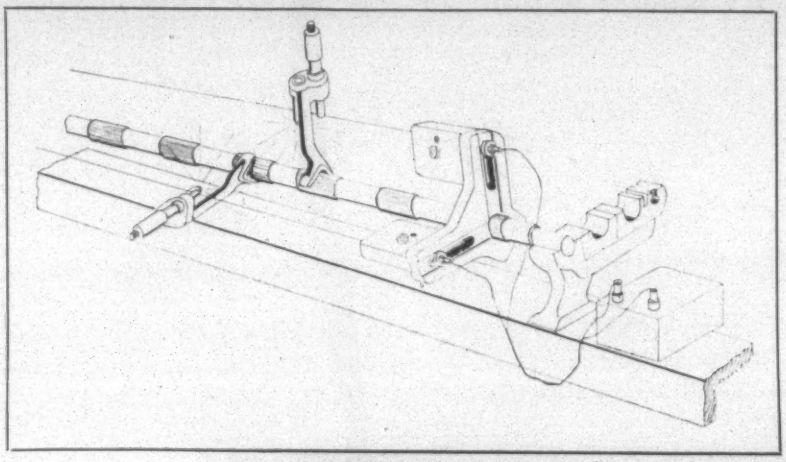

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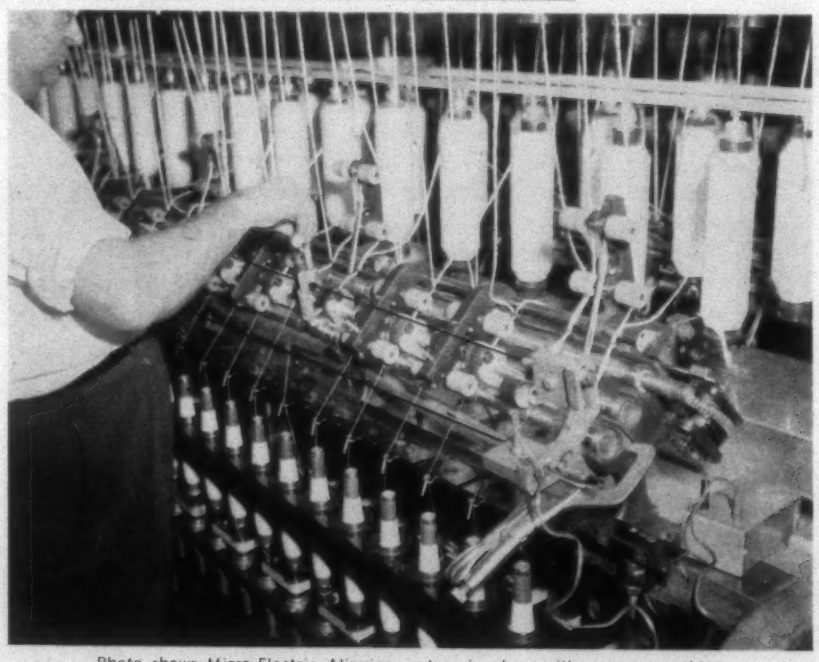

Photo shows Micro-Electric Aligning system in place with operator making a "Level Check." The line drawing above shows the Kit parts positions.

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Providing Electrical Control For Small Dual Fuel Boilers

By P. K. RYDER*

THERE are three basic functions of the control system of a dual fuel fired burner: (1) to safeguard the installation against a pressure vessel explosion or burnout; (2) to safeguard the installation against a fuel explosion in the furnace; and (3) to regulate the operation of the burner for the desired thermal output, efficiently. These three basic functions are performed by a variety of electro-mechanical devices, all interwoven into a control system that can be a relatively simple "off-on" system or as intricate and complex as today's needs demand.

To illustrate a simple control system, I would like to tell you a story about Joe, who was the proud operator of an oil burner. He took great pride in his burner and its part in his plant's over-all operation. This particular burner was a standard type of machine which had a motor driven fan for combustion air, a pump to provide oil pressure, a gas pilot ignition assembly, and an oil shut-off valve. It was electrically wired as is illustrated in Fig. 1.

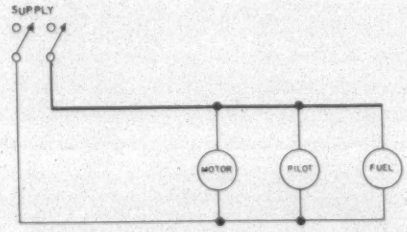


Fig. 1—Electrical wiring system is used on standard type boilers with a motor driven fan for combustion air, a pump to provide oil pressure, a gas pilot ignition assembly, and an oil shut-off valve.

In the morning when he threw on the switch, the motor started, the pilot lighted, and the oil valve opened, all simultaneously. His burner was then in operation for the day, being manually regulated to provide the necessary steam for production.

Joe was sort of a gadgeteer and, noting that his burner lit off very poorly in the morning, elected to connect a switch in series with the ignition and the fuel valve so that each time he started the burner, he could program each step. When he closed the main switch, the fan and pump motor started. When he was satisfied that he had fuel and air available and ready for firing, he closed the ignition switch which turned on the pilot. After checking to insure that he had an adequate pilot flame to reliably light off the main fuel, he closed the switch which energized the main valve and the burner lit off smoothly. To conserve gas, he opened the switch to shut the gas flame off, after allowing the main flame to become stabilized. The burner then continued to operate as long as Joe left the main switch closed.

*Combustion Control Division, Electronics Corp. of America, presented at the 1959 A.I.E.E. conference on electrical equipment at Charlotte, N. C.

More Automatic

Joe was down at the local hobby shop one day where he saw a little motor driven switch assembly which he felt he could adapt to his burner to make it a little more automatic. He connected it as is shown in Fig. 2. Now when the main switch was closed, the timing motor started and the burner motor started. After a pre-determined time, the switch to the ignition closed and the pilot flame was established.

Subsequently, the switch to the main fuel valve closed and the main burner lit off. After sufficient time had elapsed to allow the main burner flame to stabilize, the ignition switch opened and shut off the pilot flame. The timer motor then stopped and permitted the burner to continue firing until such time as Joe shut off the main power.

Joe was called on the carpet by his boss on several occasions, for now that he had more or less automatic operation, he had time to read comic books and other similar type publications and neglected to shut off his burner as the steam pressure built up to the point where the safety valve tripped. It made such a racket that the boss admonished Joe to take care of his job with more diligence.

Safety Valve

Joe then went back to the hobby shop and procured a pressure-operated switch which he connected into the control system. This switch had a normally closed pair of contacts which opened at a pre-set steam pressure. The contacts re-closed when the pressure dropped again to a pre-set point. Joe really had it made now. For all practical purposes, the burner would start by itself, would maintain steam pressure in the boiler within certain acceptable limits, and required little attention.

Everything went fine, however, until one day the bottled gas tank which supplied the gas pilot was exhausted. The burner attempted to start up in a normal manner and yet

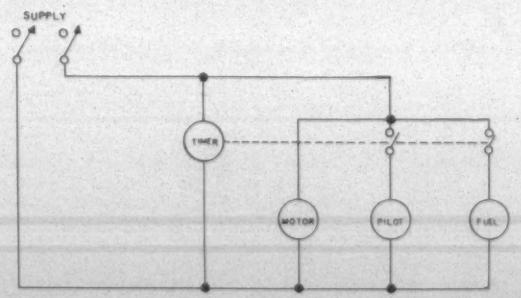


Fig. 2—To make the boiler operation more automatic, the gadgeteer wired a motor driven switch assembly into the control circuit.

found no means of ignition. The oil pump pumped oil into the combustion chamber until Joe had a tremendous mess on his hands and no steam. He was actually quite lucky, for if the combustion chamber had been hot, the main fuel would have been ignited by the hot firebricks explosively, causing extensive damage to the entire installation and extended loss of production. After he had cleaned up the situation and got his plant back into operation, Joe went back to the hobby shop and purchased a so-called "magic eye." This he wired into his control circuit as indicated in Fig. 3.

Add Timer Switch

At the same time, he added another switch to his timer assembly, whose contacts were in parallel with the switch in the magic eye. This new timer switch was normally closed at the start. The sequence of operation which occurred now when Joe threw the main switch was that power passed down through the limit switch and started the timer assembly, it continued down through the new switch on the timer assembly and started the motor. After a sufficient time elapsed, the switch to the pilot assembly closed, the pilot flame became ignited, and subsequently, the main fuel valve was energized.

After a short period of time, the new switch on the timer opened, and continued operation of the burner from this point on depended upon the magic eye "seeing" the fire. Again, the pilot burner was shut off after the main burner flame had become stabilized.

Joe really had it easy now for, in the event that the main burner failed to light off on a normal start up, the instant that the new switch on the timer assembly opened, the entire burner would be de-energized, and too, if the fire went out for any reason during a normal operating period, the magic eye would shut off the entire burner. You can see from the circuit that the burner would start and stop automatically each time that the pressure limit switch closed and opened its contacts. Also, Joe's boss could not call him down for blowing the safety valve, for he had a device which would protect his boiler against over pressure; he could not be called down for making a mess of the boiler room in a manner similar to the occasion when the bottled gas tanks ran dry; and he had provided a certain degree of flame failure.

Electronic Control Systems

If you examine this control circuit for a moment, you

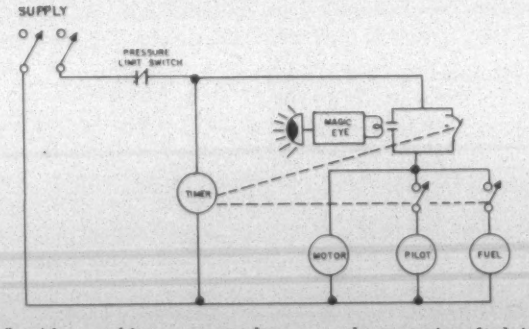


Fig. 3—After making a tremendous mess by pumping fuel into the combustion chamber when the pilot light was not operating, the gadgeteer installed a magic eye in his boiler control circuit.

will find that, basically, it is identical to the control circuit offered by electronic burner flame safeguard control systems today. Obviously, this simple control circuit would not be acceptable today because of its incompleteness; however, by the addition of self-checking circuitry, pilot proving, manual reset latchout switch, interlock circuits, modulator control, alarm switching, prepurge and postpurge programming, we can in fact develop a control system equal to those engineered today.

Basic burner control circuit functions can be further analyzed by referring to the block diagram, Fig. 4, and by discussing a sample operating sequence of a burner equipped with a control system equal to today's accepted standards.

When a call for burner operation is initiated, a check is made through all safety limit switches, the operating controls and the fuel-air interlocks to insure that all starting conditions are satisfactory. The blower or burner motor is then energized to purge out the combustion chamber and boiler passes prior to the moment that the pilot flame is turned on. After a sufficient purge (four air transfers of the entire volume is an accepted rule of thumb), the pilot flame is established and must be detected by the pilot flame detector at a point out in the combustion chamber where reliable ignition of the main flame is assured.

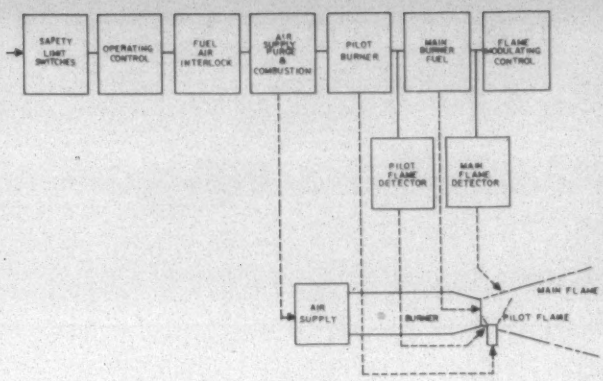


Fig. 4—This block diagram shows a modern control system used in small boilers. Basic burner control circuit functions can be analyzed by use of the diagram.

Main Flame Ignition

With a satisfactory pilot flame at hand, the automatic fuel valve is opened and the main flame established. The period following is termed "trial for ignition of main flame." At the end of this short period, the flame detector must detect the fact that the main flame has been established. Subsequently, the pilot flame is turned off, after allowing sufficient time for the main flame to become stabilized.

The flame modulating portion of a burner control system is responsible for regulating the size of the flame to maintain an even pressure or temperature in the boiler. To attain safer and smoother lightoffs, the modulating equipment is driven to the low fire position prior to each start up and holds the burner at that firing rate until after the burner flame has become stabilized.

In the event that any safety limit switch or operating

control registers an abnormal condition, or if any fuel-air interlock is not satisfied, the burner cannot be started. If the abnormal condition arises during a regular operating period, the burner will be shut off immediately.

Should the pilot flame fail to be detected by the pilot flame detector, the main fuel valve is not energized. By the same token, if the pressure of the main flame is not detected by the main flame detector at the end of the trial for ignition period, the entire burner is shut off and latched out on safety. Should the main flame fail or go out for any reason during a normal firing period, the control system again will shut off the burner immediately and latch it out in a manner which requires manual reset prior to restarting.

Burner Control Inventory

Let us take inventory of the various component devices that are used in today's burner control systems:

A. Limit Switches—generally consist of pressure or temperature actuated switches, thermal over-current devices, and water level controls. The pressure and temperature actuated devices have adjustable cutout limits and also adjustable differentials which regulate the cut in point. Thermal overcurrent devices are standard electrical overload releases. Water level controls fall into two basic types—float type and probe type—that are installed to open their switch when the water level falls below a pre-set level. Generally, there is combined with the low water cut-off, a water feed control system to maintain the boiler water level within the proper operating limits.

B. Operating Controls—generally consist of air or liquid thermostats and pressure actuated switches. There are a great variety of specialized types of operating controls now marketed for precise control of burner operation.

C. Fuel-Air Interlocks—include gas and oil pressure actuated switches, fuel temperature switches, air flow proving switches, and position indicator switches. All types of static and differential pressure, centrifugal and electromagnetic switches are utilized to prove the presence of adequate air flow. Mechanically actuated, position indicator switches attached to linkage arms, valves, hinged assemblies, breeching dampers and air louvres, prove that the various devices are in proper position at startup and during normal firing periods.

D. Fuel Shut-off Valves—guard all fuel entry points into the combustion chamber. Those generally used on small dual fired burners consist of solenoid, air operated, or motor driven globe or gate type valves. There have been many progressive modifications in valve designs these last few years which is encouraging, for judging from a review of various tabulations of basic causes of firebox explosions set down by insurance groups, the greatest single factor is the lack of a positive shut-off of all fuel entry points to the boiler.

E. Electronic Flame Monitoring Detectors—comprise the following:

(1) Phototubes: have been used extensively to monitor oil flames. Phototubes will permit current flow and subsequent flame relay operation when light strikes the cathodes of the tube. They are

not generally suitable for detecting gas flames as there is not sufficient light energy propogated by these blue flames.

(2) Flame Rods: depend on the ability of a gas flame to conduct minute electrical current, for their operation. Flame rods are frequently difficult to install and maintain for they are subject to burning off and becoming dirty from their environment. For many years, however, flame rods were the only known commercial method of instantly detecting the presence or absence of a gas flame and as such, they have served the industry reasonably well.

(3) Photoconductive Cells: are known as semi-conductors. The active element most widely used is lead sulphide (PbS). This material has the property of decreasing in electrical resistance when exposed to radiation of certain wave lengths, and of increasing in resistance when such radiation is removed. It is most sensitive to radiation in the infra-red portion of the spectrum.

It has been determined that the radiation intensity of any flame is continually fluctuating at frequencies ranging from one to several hundred cycles per second. This rate of change of intensity is dependent primarily on the type of fuel burned and the flame characteristics

It can be seen, therefore, that the fluctuating infra-red radiation of a pilot or main flame will cause a continual variation in the electrical resistance of the cell. This variation in resistance is utilized by the electronic amplifier of the control to trigger the pull-in of the flame relay.

Incandescent refractory is also a source of infra-red radiation. Such radiation is of constant intensity, however, being dependent upon refractory tempetature. The inherent difference between flame and refractory radiation makes it possible for the electronic circuit to discriminate between the two. This type of control is designed to respond to infra-red radiation fluctuating at a rate of approximately ten cycles per second. The circuit does not respond to radiation of constant intensity.

Steady-state infra-red radiation, received from incandescent refractory, should be avoided when installing a scanner. As indicated previously, infra-red radiation causes the cell resistance to decrease. A cell viewing a flame and incandescent refractory background will suffer some loss in sensitivity due to the lowering of its resistance from the steady refractory radiation. This loss in sensitivity of the cell, while not causing an unsafe condition, could result in nuisance shutdowns if refractory being viewed is sufficiently high in temperature.

(4) Ultra-Violet and Photo-Multiplier Tubes: these newly applied flame monitoring devices, designed to detect the presence or absence of ultra-

violet radiation in the flame spectrum, hold promise of improved performance on burner installations where, because of extremely high refractory temperatures, other types of flame detectors become difficult to apply.

F. Programming Controls—are essentially the heart of the control system. To the programming control are connected all the limit switches, operating controls and interlock. From the programming control the burner motor, pilot assembly, main fuel valves and alarm are powered. It contains the flame detector electronic amplifier circuit and also the switching for the modulator assembly. The programmer provides all the switching and timed sequencing necessary to properly program the burner start up cycle. All this, designed around safe fail U.L. and F. M. approved circuits, and of suitable construction for the environment they are subject to. The majority of programming controls manufactured today are designed with plug-in chassis to facilitate field servicing.

Burner Control Design

The design of the burner control circuit takes into consideration first, the requirements of the particular installation to assure performance in the manner desired, and second, to comply with a variety of regulations that pertain to this type of equipment. Codes, regulations, recommended practices, industry standards, etc., have been developed to insure that the safety of a fuel burning installation is not left to chance. It is always sound practice and generally mandatory to specify that controls and other devices that make up a burner control system be approved by insurance underwriters testing laboratories such as U.L., F.M., F.I.A., etc., and that the over-all system be acceptable to the insurance underwriter responsible for the particular job.

It has been common practice in past years to assemble and wire the control system on the job. Today, the rule is to have the complete control system assembled in a cabinet, pre-wired, tested, and delivered to the job with only a minimum amount of field wiring required.

A well-designed and manufactured product is only half the job done. Accurate installation of the right components for the job, together with on-the-spot field know-how, testing, and operator training completes the picture. One without the other frequently insures that a job is less safe than one with no safety equipment at all. It is encouraging to note the amount of effort and expense being put forth by the industry as a whole for the better training of installation and service-maintenance men.

Erwin Mills Establishes Scholarships At N. C. State School Of Textiles

Two scholarships, each valued at $500 annually, have been established in the School of Textiles at North Carolina State College by Erwin Mills. The awards will be known as the Erwin Mills Textile Scholarships. Applicants must be high school graduates and must take the scholastic aptitude test given by the College Entrance Examination Board at Princeton, N. J. The awards are not restricted by the company but it hopes that sons and daughters of Erwin employees will apply for the scholarships in their respective high schools.

An Answer To Ductwork Corrosion Problems

FIBERGLASS REINFORCED PLASTIC PIPING PROVIDES A NEW APPROACH TO AN OLD PROBLEM

A SOLUTION to corrosion problems in slasher room ductwork has been found in the use of fiberglass reinforced plastic piping. Developed by Benray Incorporated of Charlotte, this new type ductwork is similar to the material used in plastic-bottom boats and furniture. It is made of a composition of polyester resins and fiberglass, and it can be molded into virtually any shape, size or form. Completely resistant to corrosion, the material is expected to find any number of applications in the textile industry.

The initial textile application has been its use in the manufacture of custom ductwork for four slashers at Springs Cotton Mills, Fort Mill, S. C. The first installation, a trial section of the fiberglass duct tied right in with an installation of stainless steel duct, was made in March 1959. Prior to that time Benray had been primarily a producer of specialty items made of the material. Springs Cotton Mills had been interested in exploring the possibility of using plastic ductwork, and approached Benray with the idea. Three months after the test length had been installed, Springs came through with its first order, and has since replaced all its stainless steel ductwork on the four slashers at Fort Mill.

How Does It Compare?

In comparison with metals used in ductwork, Benray's fiberglass reinforced plastic is said to offer the following advantages:

(1) resistance to corrosion
(2) permanency
(3) insulative qualities
(4) lack of static electricity
(5) ease of erection and maintenance

The composition of the resins used in making the ductwork can be varied to withstand corrosive effects of any mill atmospheric condition, Benray reports. The material can be molded into any diameter from 1½ inches to 60 inches; in thicknesses ranging from flexible to rigid; and in any desired lengths (standard sections are molded in 5½-foot lengths). Duct for the Springs installation ranges in thicknesses from $\frac{3}{16}$ to ¼ inches with an average diameter of 30 inches. It has a flex strength of 30,000 p.s.i., a tensile strength of 50,000 p.s.i. Springs reports that it has found the ductwork completely impervious to heat and water, and that it is easier to clean than metal.

Benray fabricates the material at its Charlotte plant. Installation is said to be simple enough to permit mills to do their own erecting, thus permitting them to schedule their own complete installation at periods most convenient for them. Complete assembly kits are provided by Benray.


Cobb

To further the material's application in the textile industry, Benray has appointed Joe C. Cobb as sales manager. Cobb has been prominent in the textile industry since 1928. Until 1957 he was with Reeves Bros. Inc. as manager of its Osage Division at Bessemer City, N. C., and the Bishopville Finishing Division at Bishopville, S. C. Prior to that he was vice-president in charge of cotton and synthetic manufacturing divisions of Pacific Mills. He resigned from Reeves Bros. in 1957 to devote his time to real estate interests in the Charlotte area.

Cobb foresees a number of textile applications for fiberglass plastic, especially in wet finishing operations. Although production to date has been devoted solely to slasher exhaust ducts, Cobb points out that Benray is equipped to make slasher hoods; non-staining boxes for handling wet and chemically treated fabrics (also inserts for existing metal or wooden boxes); J-type boxes; scrays; non-corrosive tubing for handling fabrics; yarn boxes for dye in conditioning ovens, etc.

Costwise the fiberglass plastic material is competitive with metals now being used, in some cases being even more economical depending on individual requirements — i.e., sizes, flexibility, joints, elbows, etc.

Veil-Spraying Offers Many Decorative Effects

USING inexpensive, readily available spraying equipment, vinyl plastic in the form of a liquid dispersion can be applied to fabrics to obtain unusual decorative effects, according to Flexible Products Co., Marietta, Ga.

The technique, known as veil-spraying, results in a random line or a spatter pattern, depending on the spray head used, which may be varied widely in density, width, thickness, continuity and general texture. The detail is controlled by the viscosity and flow properties of the compound, and by the adjustments of the spray gun. On heating in the range of 310-450° F. the plastic fuses to the fabric in a permanent pattern that can withstand washing and dry cleaning, and can be ironed on the "wrong" side. Colors of any shade, including metallic, may be used. Additional interest can be obtained by sprinkling Metalflake on the pattern before fusion to give a glitter effect.

Many fabric applications are being developed to take advantage of these decorative effects as well as the increased durability imparted to the fabric without sacrificing hand, drape, or breathability. Among these are: drapery and cur-

tain fabrics; upholstery and slip-cover fabrics; tickings; outerwear fabrics; lingerie; robes; glove fabrics; spreads; lampshade fabrics; linings; and wall coverings.

Veil-sprayed vinyl dispersions are applied with hand-operated or automatic spray guns equipped with decorator heads. Although the detail made by a single head is an abstract swirl (or spatter), a repetitive, reproducible pattern can be developed by the use of multiple spray heads. The heads can be arranged in a variety of ways for different pattern effects. The spray area can be made large or small, by moving the head away from the fabric or closer to it. This movement can be carried out while the spray process is in progress, producing an alternately large and small design. The spray heads can be arranged in groups and can be made to reciprocate or to rock back and forth.

The amount of material used varies with the design and averages 0.5-1 ounces/square yard. Coating speeds can be as high as 100 yards per minute.

Usually the spray application can be integrated into present operations of printing or finishing without difficulty, it is reported. In some cases, however, it may be necessary to provide for somewhat higher temperatures than those available with present equipment. Electric or gas-fired radiant infra-red heaters are a useful tool for this.

Flexible Products' Wilflex vinyl dispersion compounds are said to feature: unlimited colors; excellent adhesion for most materials; excellent wear resistence; inherent flexibility; fastness to cleaning, light or other deterioration; any desired degree of hardness or softness of hand may be obtained; may be foamed to increase three-dimensional effect or thinned to lay almost flush with substrate; and they are fire-resistant.

N. C. State College Establishes Department Of Textile Technology

A department of textile technology has been established in the School of Textiles at North Carolina State College through the merger of the departments of fiber and yarn technology and fabric development.

Prof. E. B. Grover, who headed the department of fiber and yarn technology, is head of the new department. Prof. B. L. Whittier, head of the department of fabric development, stepped down last year to devote his full time to teaching.

Prof. D. S. Hamby is to co-ordinate new curriculum activities for the department and that work has already begun in the establishment of new courses and programs to be started. The course and curriculum revisions are only one of several progressive steps to keep the School of Textiles ahead in the field of textile education.

Alabama Mill Men To Meet April 20-22

The Alabama Textile Manufacturers Association will hold its 22nd annual meeting April 20-22 at Buena Vista Hotel, Biloxi, Miss. The meeting will get underway Thursday morning, April 21, with a meeting of the nominations and resolutions committees.

The first business session will feature presentation of safety trophies to winners in the association's 1959 safety contest. Featured also will be the following committee activity reports: Cotton Policy, Otha Nivens, Avondale Mills, Sylacauga; Cotton Improvement, J. Craig Smith, Avondale Mills; Industrial Relations, A. T. Hanson, West Point

(Ga.) Mfg. Co.; Alabama Textile Operating Executives, Wendell Morriss, Geneva Cotton Mills, Geneva; Georgia-Alabama Textile Traffic Association, Paul Watkins, counsel.

The second business session on Thursday afternoon, April 21, will feature the remarks of the outgoing president, Joel E. Johnson, Geneva Cotton Mills, Geneva; a financial and legislative report by Sidney Tingen, West Boylston Mfg. Co., Montgomery; a report from the resolutions committee by D. H. Morris 3rd, Geneva Cotton Mills; and the annual election of officers.

The closing business session on Friday morning, April 22, will feature an address by Dr. John H. Dillon, director of the Textile Research Institute, Princeton, N. J. The annual golf tournament will be held Friday afternoon at the Great Southern Golf Course. The meeting will close with the annual banquet Friday evening. Miss Mildred Nelson, Alabama's Maid of Cotton, will be an honored guest at the banquet.

Georgia Mill Men To Meet May 19-21

The 60th annual meeting of the Georgia Textile Manufacturers Association will be held May 19-21 at the Diplomat Hotel and Country Club, Hollywood Beach, Fla.

Frank L. Carter, association secretary, points out that several changes have been made in the convention procedure followed by the association in the past several years. These changes include: (1) The convention will open with a business session on Thursday afternoon, May 19. (2) Chartered planes will transport delegates from Atlanta to Broward County Airport (Ft. Lauderdale) with arrivals scheduled for Wednesday afternoon and Thursday morning. Return flights will depart for Atlanta on Saturday afternoon and Sunday morning. (3) The annual golf tournament will be held on Friday afternoon and the annual banquet on Friday evening. (4) The association will arrange for special cars on scheduled trains for delegates preferring rail travel.

The Broward Airport is only 15 minutes from the Diplomat, and the decision to land the flights there was made in order to avoid the extra expense and time involved in getting from the Miami Airport to the hotel.

The president of the association is Louis L. Jones Jr., president of Canton (Ga.) Cotton Mills. Other officers include Paul K. McKenney Jr., vice-president of Swift Mfg. Co., Columbus, vice-president; John P. Baum, vice-president and general manager, J. P. Stevens & Co., woolen and worsted division, Milledgeville, treasurer; and T. M. Forbes, Atlanta, executive vice-president.

S.T.A. Schedules Spring Divisional Meetings

SNOW, ice and unpredictable weather forced postponement of the March 12 Spring meeting of the Piedmont Division of the Southern Textile Association, but three other divisional meetings are slated for the month of April.

The South Carolina Division, headed by D. H. Roberts of Lydia Cotton Mills, Clinton, S. C., will meet Friday evening, April 1, at the Easley High School in Easley, S. C. Supper will be served at 6:30 p. m. with the technical program beginning at 7:30 p. m.

Highlighting the program will be the following group discussions: "Opening, Picking & Carding," led by Dacus E. Ross of Abney Mills, Woodruff, S. C.; "Spinning, Spool-

ing & Winding," led by Bennett Hudson, Woodside Mills, Greenville, S. C.; "Weaving, Slashing & Cloth," led by Louie Burkes, Calhoun Mills, Calhoun Falls, S. C.; and "Air Conditioning & Automation," led by Carl Franzen, Joanna Cotton Mills Co., Joanna, S. C.

Acting as hosts for the meeting are Alice Mfg. Co., Glenwood Mills and Woodside Mills, all of Easley. Reservations for supper are being made through Harvey Cleveland, Woodside Mills, Easley.

The association's Northern North Carolina-Virginia Division, chairmaned by Herman Cone Jr. of Cone Mills, Greensboro, will hold its Spring meeting on Saturday morning, April 23rd, at the Morehead High School, Spray, N. C.

Highlighting this meeting will be group discussions on the following: "Opening, Picking & Carding," led by Dillard Powell, Fieldcrest Mills; "Spinning," led by P. D. Merritt, Dacotah Cotton Mills; "Spooling & Warping," led by W. B. Chambley, Fieldcrest Mills; "Slashing," by Calvin Ussery, Erlanger Mills; "Plain Weaving," by Cecil Squires, Cone Mills; "Box Loom Weaving," D. T. Arnold, Dan River Mills; and "Quality Control," by William Lilly, Cone Mills.

The meeting will get underway at 10 a. m. and will adjourn for lunch at 12:30 p. m.

The group's Eastern Carolina Division will meet on Saturday morning, April 30th, at the North Carolina State College School of Textiles, Raleigh. T. B. Stevens of Erwin Mills, Erwin, N. C., chairman of the division, has not announced program arrangements at this writing.

The cancelled meeting of the Piedmont Division has tentatively been rescheduled for Saturday morning, May 7, at the Johnston Memorial Y.M.C.A., Charlotte. M. L. Brackett of Highland Park Mfg. Co. is chairman of the division.

A.I.E.E. Conference To Be Held May 5-6

The annual conference of the American Institute of Electrical Engineers on electrical applications in the textile industry will be held in Atlanta May 5-6 at the Heart of Atlanta Motel. The conference is sponsored by the textile industry subcommittee of the A.I.E.E., of which R. R. Prechter, General Electric Co., Atlanta, is chairman.

The conference is designed to bring together managers, engineers, technicians and master mechanics of the textile industry to discuss electrical aspects of textile production, including the design, operation and maintenance of both new and old equipment.

Papers to be presented include:

"Connections and Maintenance of Transformers," by J. W. Nims, Chemstrand Corp., Pensacola, Fla.

"Applications Committee Report Concerning Higher Temperatures for Electrical Equipment," by Ray Parker, chairman, applications panel.

"Research—Road to Progress," by Dr. M. F. Martin, General Electric Research Laboratory, Schenectady, N. Y.

"Static Power Conversion Techniques and Applications," by R. P. Putkovich, new products engineering department, Westinghouse Electric Corp., Cheswick, Pa.

"New Electrical Applications Through Textile Research," by James C. Hogg Jr., research division, West Point Mfg. Co., Shawmut, Ala.

"Some Do's and Dont's of Electrical Grounding in a Textile Plant," by L. S. Inskip, Bell Telephone Laboratories, Murray Mill, N. J.

"How Textile Mills Can Profit From the New Recommended Practices," by F. D. McConnell, Southern Electrical Equipment Company, Charlotte, N. C.

"Experiences of Insurance Inspectors with Emphasis on Improper Electrical Practices in Mills," by W. A. Weddendorf, Mutual Boiler & Machinery Insurance Co., Waltham, Mass.

Second Half '59 Shipments Of Tufted Rugs And Carpeting Up 10% Over 1958

The value of manufacturers' shipments of tufted rugs and carpeting during the second half of 1959 was 4% above the previous half-year's shipments, and 10% above the shipments during the second half of 1958. Shipments of rugs and carpeting, including roll goods (rugs larger than 4 ft. x 6 ft.), were 2% above the first half of 1959 and 11% greater than shipments during the second half of 1958. During these periods, the shipments of scatter rugs and bathmats showed increases of 12% and 4%. Tufted bedspread shipments in the second half of 1959 were 20% above the shipments during the comparable period of 1958.

18 Mills Establish Perfect Safety Records In Georgia Safety Contest

A 23% decrease in accident severity rate was the highlight of the 1959 Safety Contest of the Georgia Textile Manufacturers Association, according to Frank L. Carter, association secretary.

The average severity rate for the 118 plants participating in the 1959 contest was 282, as compared to 367 in 1958. The national average, as reported by the National Safety Council, is 382.

A feature of the contest was the perfect safety records of 18 mills which worked a total of 14,606,689 man-hours without a lost-time injury. Mills with perfect records were (with man-hours worked shown in parentheses): U. S. Rubber Co., Reid Mill, Hogansville (388,046); Kingsley Mill Corp., Thomson (371,434); Reeves Bros. Inc., Eagle & Phenix Division, Columbus, Finishing Plant (765,133); Manufacturing Plant (1,493,453); Chicopee Mfg. Corp., Lumite Division, Cornelia (736,175); J. P. Stevens & Co., Dublin Plant, Dublin (1,464,901); Riegel Textile Corp., Trion Division, Trion (Greige Mill) (4,775,972); Callaway Mills Co., Valway Plant, LaGrange (367,735);

Also Southern Mills Inc., Atlanta (250,769); Chicopee Mfg. Corp., Buford (211,707); The Jefferson Mills, Jefferson (Finishing Plant) (197,937); Bibb Mfg. Co., Taylor Mill, Reynolds (157,145); Bibb Mfg. Co., Star Plant, Macon (88,786); Carroll Mills, Carrollton (115,424); Clarkesville Mill, Clarkesville (697,993); Dundee Mills Inc., Plant No. 5, Griffin (681,800); Standard-Coosa-Thatcher Co., National Plant, Rossville (656,468); and Thomaston Mills, Bleachery Division, Thomaston (1,185,801).

Textile Executives Short Course To Be Given June 6-17 At N. C. State

The School of Textiles of North Carolina State College will hold a short course for textile industry executives June 6-17. The course is designed primarily for the non-textile college graduate who is now employed in the textile industry at executive levels. The course provides ten days

of intensive instruction in how textiles are produced.

Topics covered in the course include: Fiber quality of cotton varieties, areas and physical properties; Fiber quality of man-made fibers, including classification, outstanding properties and properties that influence end-use; Yarn number systems and conversion constants; Textile calculations including constants with laboratory demonstrations; Cotton system of processing; Spinning limits for cotton, synthetics and blended yarns; Fiber evaluation of natural and man-made fibers by spinning tests and analysis of sample production; A study of twist including the influence of twist on physical properties; Types of looms, their uses and limitations, etc.; Fabric design and construction; Fabric analysis and characteristics; Fabric defects; Blending of cottons and cotton with other fibers: methods, yarns, characteristics, etc.; Processing of continuous filament yarns, including textured yarns; Mill balance and organization for different types of construction of yarns; Quality control systems; Applied quality control; Testing techniques and instruments; Survey of end-use aspects of yarn for the knitting and weaving trades, types of fabrics produced, and market requirements; Survey of fabric finishing including the different classifications of finishes and dyes for various fibers and products.

The course is under the direction of Professor Elliot B. Grover, head of the department of textile technology. Instructors include: E. B. Berry, J. F. Bogdan, K. S. Campbell, D. S. Hamby, J. W. Klibbe, W. E. Moser, B. L. Whittier and R. E. Wiggins.

Cost of the course is $160 per person. This does not include housing and meals. Registration can be made with D. B. Stansel, P. O. Box 5125, State College Station, Raleigh, N. C.

Jap Purchase Of U. S. Cotton Dropped Some 57% In 1959, But Imports Up By 5%

The Japan-U. S. Textile Information Service in New York reported March 3 that during 1959 Japan bought $78,672,000 worth of American cotton and sold us $59,890,000 worth of Japanese cotton yarn, cloth and made-up goods. According to these figures, the amount of Japanese goods sent to the U. S. is some 5% higher than in 1958, when the volume totaled $56,930,000. Japanese cotton purchases from the U. S., on the other hand, were 57% lower than in 1958, when the volume totaled $135,678,000.

In November 1959, Japan imported $5,569,000 worth of American cotton and exported to the U. S. $3,252,000 worth of Japanese cotton goods. In December 1959, Japan imported $18,253,000 worth of American cotton and sold $5,087,000 worth of Japanese cottton goods to the U. S.

Lowell Tech Foundation To Conduct U.S.D.A. Wash-Wear Research Study

New wash-wear finishes for cotton fabrics will be sought by research workers at the Lowell Tech Research Foundation under a contract announced March 3 by the U. S. Department of Agriculture. The contract was negotiated for U.S.D.A. by the Southern Utilization Research and Development Division, New Orleans, La., and will be supervised for the division by John G. Frick Jr. of the cotton chemical laboratory. Dr. Emery I. Valko, who received the 1958 Olney Award in recognition of his achievements in textile research, will have charge of the work at Lowell Tech.

Piedmont A.A.T.C.C. To Meet April 1-3

The Piedmont Section of the American Association of Textile Chemists & Colorists will hold its Spring meeting April 1-3 at the Robert E. Lee Hotel, Winston-Salem, N. C.

Highlighting a 2 p.m. April 2nd technical session will be papers on "The Light Fastness of Dyestuffs," by Charles H. A. Schmitt, director of application, research and development, Sandoz Inc.; and "Modified Viscose Type Fibers," by I. H. Welch, technical service department, American Viscose Corp.

A 5:30 p.m. social hour and 7 p.m. banquet will conclude the meeting. "Bones" McKinney, Wake Forest basketball coach, will be the banquet speaker.

Quality Control At Dan River

(Continued from Page 43)

being met on each fabric. Simultaneously, a sample of cloth is cut for physical checking in the laboratory. Defect point charts and other control reports are maintained by quality control in order to keep manufacturing management informed as to the quality levels of the various fabrics, and to post them immediately when a particular fabric gets out of tolerance.

Essentially the same procedure is followed when cloth has gone through the finishing plant. Finished fabrics on a sampling basis are inspected visually, samples are cut for physical laboratory testing, control reports are maintained, manufacturing management is continuously informed of quality levels and fabrics out of tolerance.

Program Not Complicated

This program I have so briefly outlined is not complicated, but do not be deceived that it works automatically, carried along by its own momentum. It will be successful only if it has initially and always the 100% backing of top management, plus the full co-operation and understanding of manufacturing supervision. For this reason, I believe it is desirable that the director of quality control report to the top—in our case, the executive vice-president.

I do not believe it is immodest for me to say that our organization for quality control has proven successful. We enjoy a reputation for good quality with our customers, and with the ultimate consumer. So far as I know, we are the only integrated textile mill which the government has permitted to do its own inspection; that is, Type C Verification.

This program is not costly, taking into account the size of our operations, the complexity of our manufacturing, and the great diversity of our fabrics. I think its principles could be adapted successfully to other organizations. Let me conclude by emphasizing two points.

First, we are convinced by long, sometimes difficult experience that the responsibility for quality should be specifically and squarely in the hands of manufacturing supervision, both in the greige and finishing operations; this responsibility to include in-process and finish product testing and inspection.

Second, we are further convinced that the function of the quality control department is to establish standards, to provide controls by means of sampling and spot checking, and to maintain reports that will keep manufacturing management advised at all times of their performance, and whether or not their product is out of control.

Promotions, Resignations, Honors, Transfers, Appointments, Elections, Civic and Associational Activities

PERSONAL NEWS

Farish

John Owings Farish has joined the sales and engineering staff of the Louis P. Batson Co., Greenville, S. C., and will contact customers in eastern North Carolina, eastern Virginia and eastern South Carolina. Farish was previously connected with Burlington Industries where he was manager of the Franklinton (N. C.) Fabrics Division.

H. Stillman Taylor, sales manager of the Utica-Mohawk Department of J. P. Stevens & Co., has been named chairman of the Textiles Section for the 1960 campaign of the American Red Cross in Greater New York. Taylor will direct some 20 committees that will seek Red Cross support in every level of the textile field in New York.

Brice

Walter M. Brice Jr., manager of supply sales for Draper Corp. in Spartanburg, S. C., was recently elected president of the Spartanburg Rotary Club. Brice has been with Draper Corp. since 1928 serving on the sales force at the home office in Hopedale, until assuming his Spartanburg post.

C. W. Brown has been named manager of the West Point Mfg. Co.'s recently established mill division at Newnan, Ga. Brown has been assistant manager of the company's Shawmut, Ala., mill division since 1942.

Rolla H. Taylor has been appointed sales manager for Scott Testers Inc., Providence, R. I. Taylor has been with Scott since 1953—first as sales engineer, and since 1958 as assistant sales manager. He is a member of the American Society for Testing Materials. Taylor will have charge of sales of Scott testing equipment to the textile industry throughout the U. S. and in over 60 foreign countries.

Dr. R. Lee Wayland Jr., has been named an assistant director of research at Dan River Mills, Danville, Va. In his new post, Dr. Wayland will continue to direct the basic and applied research on special finishes for cotton and blended fabrics. . . . C. L. Zimmerman, assistant director of research, has been assigned broader responsibilities and is now in charge of the research and development program on chemicals for water treatment and sizing. Zimmerman continues to direct research activities related to the company's dyeing operations.

Maurice Atwell Jr. has been named plant production control manager at Monarch Mills, Union, S. C. Atwell joined the company in 1954. . . . John M. Henry will replace Atwell as overseer of the carding department. . . . Harold E. Blackwell has been promoted from technical assistant overseer to technical overseer of the carding department.

D. Stewart Quern has been named to the newly created post of senior sales coordinator in the Southern territory for the chemical divisions of Food Machinery & Chemical Corp., New York City. Quern was previously Southern sales manager of the Becco Chemical Division of the corporation.

William F. Umstaedter has returned to Abbeville (S. C.) Mills Corp. of the Deering Milliken group as plant manager. Umstaedter was associated with the mill for 12 years but left in 1958 to become plant manager of the Johnston (S. C.) Mill of the group. Umstaedter's previous post with Abbeville was that of product manager for men's wear.

A number of changes have been announced in the supervisory staff of the Proximity Plant of Cone Mills Corp., Greensboro, N. C. Raymond D. Kincaid, former plant superintendent, is now superintendent of carding, spinning, winding, spooling, warping and general help. . . . Robert F. Crews,

former assistant plant superintendent, has been named superintendent of slashing, weaving, cloth room and production planning. . . . Mitchell C. Andrew, formerly assistant overseer of weaving, has been named overseer of the cloth room. . . . Robert E. Barton, former head loomfixer, will be an assistant overseer of the weaving department.

Hamilton W. Thayer has resigned from his post as vice-president, director and works manager of the Draper Corp., Hopedale, Mass. Thayer said the resignation was for personal reasons.

Francis C. Grier has joined the purchasing department of Abney Mills, Greenwood, S. C. Grier is the son of the late F. E. Grier, president of Abney Mills. He was previously treasurer and assistant secretary of Dixie Hardware & Supplies. John Abney, president of Abney Mills, has been elected vice-president and secretary of the hardware firm.

Fono

Dr. Andrew Fono has been appointed director of research for Otto B. May Inc., dyestuff manufacturing firm and subsidiary of Cone Mills Corp. Dr. Fono was previously associated with Firestone Tire & Rubber Co. where he was a senior research scientist. Prior to that he was with Otto B. May for five years.

Cannon Mills Co., Kannapolis, N. C., has announced six promotions. Dewey L. Daves has been named superintendent of Plant 4 in Kannapolis. . . . K. Julian Krider has been named superintendent of Plant 10 and the Brown Mill, Concord, N. C. . . . Jack Chamberlain has been promoted to assistant superintendent of Plant 10 and the Brown Mill. . . . In the company's main office: Ralph Hoke Jr. has been named waste control superintendent. . . . Malcolm B. Bishop Jr. has been named safety director. . . . George Griggs has been promoted to secretary to the general manager.

Hastings W. Baker has been elected treasurer of Beaunit Mills, New York City. Baker, who joined the company in 1947, is also secretary and a member of the board of directors.

Two appointments to the consulting staff for its fiber department have been announced by Air Reduction Chemical Co., New York City. Donald Hawkes Spitzli and Edmund J. Gernt have joined the group which is evaluating U. S. markets for vinal polyvinyl alcohol fiber. Spitzli was formerly director of research for the Linen Thread Co. In addition to supervising research and development on fiber products he served as chairman of the patent committee and manager of the Arkon Plastics Division. Gernt is an expert on yarn and fabric production, particularly throwing, weaving and knitting. Most recently he headed yarn and fabric development projects at the Chemstrand Corp.

J. M. Tiller has been named overseer of weaving at Newberry (S. C.) Mills, succeeding L. M. Brooks.

Hindle

Walter H. Hindle, market development consultant, has formed a consulting company to serve the textile industry. Hindle, president of the consulting organization, has been active for the past year in the technical and market evaluations of vinyl conducted by Air Reduction. He was formerly associate director of research and development for the Chemstrand Corp. where he directed studies on Acrilan and Chemstrand nylon.

Sprock

Howard M. Sprock Jr. has been named a market development representative for B. F. Goodrich Chemical Co., Cleveland, Ohio. In his new position, Sprock's principal responsibility will be market development and technical service to textile firms in Southeastern U. S.

Roger Milliken, president of Deering Milliken Corp., Spartanburg, S. C., was recently honored as Citizen of the Year in Spartanburg County by the Kiwanis Club in recognition of his outstanding leadership in the cultural, civic and economic life of the community.

Charles S. Fowler has joined Forbes Marketing Research Inc., Washington, D. C., as consulting research associate specializing in marketing studies for the textile industry. Fowler's previous positions include: director of new product development, Pepperell Mfg. Co.; merchandise co-ordina-

tor, textile division, U. S. Rubber Co.; executive vice-president and general manager, Hartford Rayon Corp.; and sales manager, Lorraine Mfg. Co.

Short

Horace L. Short has been named North Carolina sales representative for Oliver D. Landis Inc., Gastonia, N. C. Short, who has had wide experience in all phases of the textile industry, will cover the area from his home at 1608 Fairfield Drive, Gastonia.

Floyd W. Jefferson Sr., co-chairman of the board of Iselin-Jefferson Co., New York City, will be honored at a testimonial dinner commemorating his 50 years of service in the textile industry on May 17 at the Hotel Astor, New York City.

Arthur Wullschleger and Herman D. Ruhm have been appointed to the Textiles Section, Commerce and Industry Committee for the 1960 American Red Cross campaign in Greater New York. Wullschleger, president of Arthur Wullschleger & Co., textile converters, is chairman of the Acetate, Rayon and Synthetics Division, and Ruhm, president of Wellington Sears Co., is chairman of the Cotton Goods Division.

Samuel B. Lippincott has been named manager of the fibers division of Chemore Corp., New York City, general representative in the U. S. and Canada of Montecatini Soc. Gen., Milan, Italy. Lippincott will be responsible for the marketing and commercial development in the U. S. of Montecatini's new polypropylene fiber, Meraklon. Before joining Chemore, Lippincott was manager of merchandising and product development of American Viscose Corp.

Junius M. Smith, president and general manager of TEXTILE BULLETIN, has been named to a three-year term on the board of directors of the Business Publications Audit of Circulation.

Ely R. Callaway Jr., E. H. Hines Jr., and Raymond E. Kassar have been named vice-presidents of Burlington Industries, Greensboro, N. C. Callaway, with the Burlington organization since 1956, is in charge of sales and merchandising activities of the company's woolen and worsted and man-made fiber men's wear operations. He is also an executive vice-president of Pacific Mills, a division of Burlington, and is located in New York City. Hines, also with Burlington since 1956 and an executive vice-president of Pacific Mills, is in charge of manufacturing in Burlington's woolen and worsted man-made fiber men's wear operations. He is located in Greensboro, N. C. Kassar, who joined Burlington's executive development program in 1948, has broad executive responsibilities for sales and merchandising in the company's home furnishings, ribbon and pile fabric areas. His headquarters are in New York City.

Richard P. Newell has been elected vice-president (export sales) of Leesona Corp., Providence, R. I. He succeeds J. Alan Nasmith who is now in England as a managing director of Leesona Holt Ltd., the European subsidiary of Leesona. Newell joined Leesona on January 1, 1960. He formerly was sales manager for the international division of Saco-Lowell Shops.

Shannon M. Gamble, retired executive vice-president of Standard-Coosa-Thatcher Co., Chattanooga, Tenn., has been named executive secretary of the Combed Yarn Spinners Association. Gamble, who is the immediate past president of the association, succeeds Claude Dawson who retired last Fall for reasons of health. The association represents some 90 combed yarn mills.

B. S. Pearson has been named overseer of carding, spinning, warping and spooling at Greer (S. C.) Mfg. Co.

Robert J. Adams has been promoted to manager of the Thomaston, Ga., division of Thomaston Mills. Adams joined the company in 1907. He served as superintendent of the Thomaston division from 1943 until his present promotion. . . . A. Marshall Moseley has been promoted to technical and development manager of the Thomaston division. Moseley joined the company in 1928 as a draftsman in the division's mechanical department. From 1943 until his present promotion he served as technical superintendent.

W. A. Hunt, product manager for men's wear for the worsted division of Excelsior Mills, Union, S. C., has been named plant manager of the company's Johnston, S. C., mill. . . . M. F. Bond Jr. succeeds Hunt as product manager of men's wear.

OBITUARIES

Calvin Brooks Bennett, assistant treasurer and manager of the roving yarn division of Standard-Coosa-Thatcher Co., Chattanooga, Tenn., died February 18 in an Atlanta, Ga., hospital. Mr. Bennett had been stationed at the firm's Piedmont, Ala., plant. His widow, a son and a daughter survive.

Charles G. Buie, 54, vice-president and general manager of Aileen Mills, Biscoe, N. C., died recently after an illness of several months. Mr. Buie joined Aileen Mills in 1925 as a bookkeeper. Survivors include a son and three daughters.

Charles G. Carlson, 52, assistant to the executive vice-president and general sales manager of Avondale Mills' office in Birmingham, Ala., died March 8. He had been in Avondale's New York office for 36 years. His widow died 15 minutes after receiving word of Mr. Carlson's death.

Eli Cleveland Francis, 75, operator of Helton (N. C.) Woolen Mills for many years, died March 6 after a heart attack. Mr. Francis had retired several years ago. He is survived by his widow and three sons.

Seymour S. Holt, 76, retired vice-president of the former Travora Mfg. Co., Graham, N. C., died February 27 in a Graham hospital. Mr. Holt joined other interests in 1946 in purchasing Travora. At the time the mill was sold in 1949, he was vice-president and general manager. Mr. Holt retired at that time. Survivors include his widow and two sons.

Edward W. Naylor Sr., 63, manager of the cotton department of Carlton Yarn Mills, Cherryville, N. C., since 1939, died March 5. Survivors include his widow, a daughter and two sons.

John M. Reed Sr., 57, Southern district manager of Ashworth Bros. Inc. at Charlotte, died March 4. Mr. Reed had been with Ashworth 21 years. Prior to that he had been with Saco-Lowell Shops. Long active in the Southern Textile Association, Mr. Reed served as chairman of that group's Associate Member Division in 1950-51. He is survived by his widow, a son and a daughter.

Karl Robbins, 67, pioneer in the production and development of man-made fiber fabrics, died March 12 in New York City. Mr. Robbins founded his own textile firm in 1922. It was later incorporated under the name Colonial Mills. In 1951 it became Robbins Mills and was later merged with Textron Inc. and American Woolen Co. The company operated three mills in North Carolina. Mr. Robbins is survived by his widow, two sons and a daughter.

Stephen I. Rudo, 63, director of research and development of Werner Textile Consultants, New York City, died March 10. Mr. Rudo was born in Hungary, and came to the U. S. after World War II. His career in textiles started in his native country where he was a partner for 20 years in the Grab Textile Works Ltd., Gyoer, Hungary, producer of cotton and rayon fabrics. Before joining Werner Textile Consultants in 1949, he was a director of the International Braid Corp., Fall River, Mass., manufacturer of narrow fabrics. His widow survives.

Philip Matthews Smith, 89, retired vice-president of A. D. Julliard & Co., died February 26 in a Bronxville, N. Y., hospital. Mr. Smith joined Julliard in 1905 and subsequently headed the cotton division of the company which formerly operated mills in Rome and Aragon, Ga. Surviving are his widow and a daughter.

William Morgan Weaver Jr., 65, head of the purchasing department at Bibb Mfg. Co., Macon, Ga., died February 22. Mr. Weaver joined the firm in 1920 after practicing law for a time. Survivors include his widow and two children.

Robert L. (Bob) Williams, representative in North Carolina and Virginia for Southern States Equipment Corp., Hampton, Ga., died recently at his home in Burlington, N. C., after a brief illness. He is survived by his widow and two sons.

MILL NEWS

CONSTRUCTION. NEW EQUIPMENT. FINANCIAL REPORTS. CHARTERS. AWARDS. VILLAGE ACTIVITY. SALES AND PURCHASES

BESSEMER CITY, N. C. — Gambrill & Melville Mills has announced a wage increase of seven cents across the board for all employees working on an hourly or piece-rate basis. This brings the company's minimum wage to $1.22 per hour. Gambrill & Melville employs 220 persons and operates 18,240 spindles and 302 looms in the manufacture of wide cotton sheeting.

HENDERSON, N. C. — Whitin Machine Works reports the sale of six Even-Draft drawing frames to Harriet Cotton Mills here. The frames will be installed in Mill No. 2.

DANVILLE, VA. — Dan River Mills has been awarded a contract by the Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Depot calling for 36-inch blue cotton oxford cloth. The contract calls for 100,000 linear yards at $40,627.

GLASGOW, VA. — Employees of James Lees & Sons Co. here voted 1,674 to 316 against representation by the Textile Workers Union of America in an election conducted by the N.L.R.B. The election followed a six months campaign on the part of the union.

ALEXANDER CITY, ALA. — Russell Mfg. Co. has announced plans to establish its own national sales organization for its finished piece goods line. The New York offices for the new organization will be located at 8 West 40th St., along with the greige sales, contract finishing and knitgoods division. The sales organization will begin operations June 15.

BALTIMORE, MD.—Mt. Vernon Mills reports that earnings in fiscal 1959 were more than double those of the previous year while sales were up 17%. Net earnings of $1,115,792 on sales of $44,838,691 were reported for 1959 as compared with earnings of $414,296 on sales of $38,318,179 in fiscal 1958.

GREENVILLE, S. C.—Woodside Mills has reported earnings of $1,855,000 on sales of $47,425,000 for fiscal 1959. This compares with the 1958 net of $1,012,000 on sales of approximately $42,310,000.

COOLEEMEE, N. C.—Erwin Mills is constructing a new plant here to house the finishing operations. When the new plant goes into operation, the production of finished material will be increased by 50%, the company said. The new addition, along with machinery, is expected to cost about $700,000. The finishing plant will contain some 19,200 square feet of space. The bleaching and dyeing departments will remain in the old buildings.

WHITMIRE, S. C.—J. P. Stevens & Co. has placed a contract for more than $600,000 with the Roberts Co., Sanford, N. C., for new spinning machinery to be installed in the Stevens plant here. The contract involves 50 Roberts Arrow M-1 spinning frames, and a narrow 24-inch wide machine said to afford increased production speeds. Each frame is 45 feet long and encompasses 320 spindles. They will be used to spin combed yarns in the finer counts from 60s to 100s for fine long staple cotton fabrics.

ROCK HILL, S. C.—The Rock Hill Printing & Finishing Co. is installing an I.B.M. RAMAC system. The primary purpose of the machine will be to handle inventories, billings, accounts receivable, accounts payable and sales and cost analysis reports.

NEW YORK, N. Y. — The Glen Alden Corp., parent organization of USF-Aspinook Finishing, reports net earnings of $7,401,275 on sales and operating revenues of $110,229,730 for 1959.

GADSDEN, ALA.—A fire in the one-story cotton warehouse of Cone Mills Corp. here resulted in water and smoke damage to the cotton. The warehouse contained 1,600 bales. No estimate of the damage was given.

WEST POINT, GA.—West Point Mfg. Co. reports that both sales and profits for the first six months of the current fiscal year are up as compared with the first six months of fiscal 1959. Net sales for the first half, ended February 27, were $79,826,000 as compared with $70,154,000 in the first half of fiscal 1959. Income for the first six months of the current year was $4,996,000 as compared with $2,999,000 in the first

six months of fiscal 1959. West Point also announced that it had completed plans for the installation of a $2½ million operation in connection with its Shawmut, Ala., mill division. The new operation is scheduled to begin by November 1. It will manufacture fine combed yarn fabrics. The company will install 20,000 spindles of Whitin Machine Works standard equipment and 450 Draper looms.

JOANNA, S. C. — Joanna Cotton Mills Co., which placed three combers on American cotton experimentally three months ago, reports that the trial was so successful that six more combers have been ordered. Company officials said that the expansion is in line with the trend of the American market toward better quality goods. Until the recent expansion into American cotton combed goods, 1,000 of Joanna's 2,900 looms were on Egyptian combed cotton. Some 600 looms will be placed on American combed cotton.

ALBEMARLE, N. C. — Plans for the expenditure of $500,000 for two additions to its Albemarle plant have been announced by Collins & Aikman Corp. The additions will house the new automotive carpet fabrication operation and offices for the corporation staff.

ALABAMA CITY, ALA. — The Dwight Plant of Cone Mills Corp. here has been placed on the market for sale. The property consists of a 26-acre plot with buildings containing more than a million square feet of floor space.

GREENSBORO, N. C.—Cone Mills Corp. has purchased a major interest in the Olympic Chemical Co., which is being formed to manufacture polyurethane foam for the furniture and rug industries and for other uses. The firm will be headed by Robert W. Ward. No location has been selected. The chemical company will employ some 25 persons initially.

GREENSBORO, N. C. — For the three months ended January 30, 1960, consolidated net sales of J. P. Stevens & Co. were $114,765,033 compared with $95,212,735 for the corresponding three months of last year. Consolidated net earnings for the 1960 period, after provision of $5,217,000 for federal and state income taxes, are estimated at $4,255,028. since reported net income for the three months ended January 31, 1959, the company said it is not comparable with reported income for the current period.

SYLACAUGA, ALA. — Avondale Mills has reported details of a $2 million expansion program. The largest expenditure is for about $250,000 worth of equipment designed to speed up production at the Alexander City, Ala., plant. Thirty additional looms are planned for the company's plant in Birmingham. The Pell City Mills will receive new spindles and other equipment. Alexander City will receive about one-fourth of the total capital expenditures.

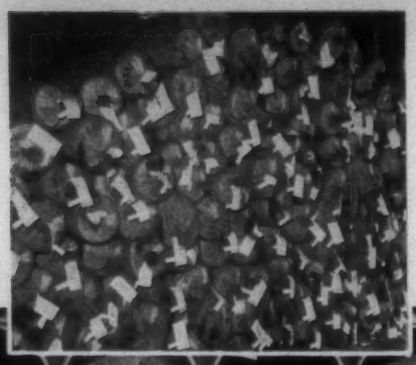
NEW YORK, N. Y.—J. P. Stevens & Co. plans to increase its authorized shares of stock, according to Robert T. Stevens, president. The present total is five million. No indication was given of how large an increase is planned. The company also reported that sales in the first fiscal quarter ended January 30 were up 20% from the comparable period in the previous fiscal year. Sales for the quarter totalled $114,765,033 as compared with $95,212,735 previously. Net profit in the first quarter was $4,255,028 as compared with $2,760,835 in the same period of fiscal 1959.

GRANITEVILLE, S. C.—The Graniteville Co. has ordered four Whitin Axi-Flo cleaners, 24 Axi-Feed units, and four Downstroke cleaners from Whitin Machine Works, Whitinsville, Mass. The machinery will be installed in the company's Granite Plant and Hickman Division in Graniteville.

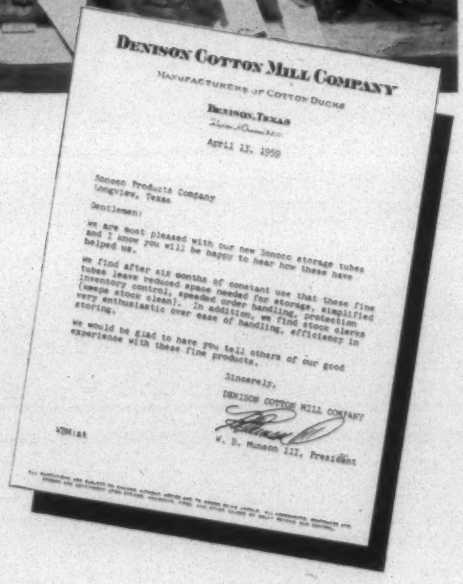
HENRIETTA, N. C.—An estimated $400,000 worth of damage was done by a recent fire at Burlington Mills Henrietta plant. The fire is thought to have been caused by a spark from a hoist motor which apparently ignited cottton bales.

CARTERSVILLE, GA.—The Goodyear Tire & Rubber Co. here has announced plans for a $2½ million expansion of its facilities here. The new unit will produce Goodyear 3-T tire fabric and will require an approximate 60% increase in the size of the existing facilities at the Atco plant.

PHILADELPHIA, PA.—The Military Clothing & Textile Supply Agency of the Philadelphia Quartermaster Depot has awarded Erwin Mills, Durham, N. C., a contract for cotton sheets. The contract calls for 138,500 sheets at $222,554.



Solve fabric storage problems . . .



DENISON COTTON MILL COMPANY

MANUFACTURERS OF COTTON DUCKS

DENISON, TEXAS

April 13, 1959

Sonoco Products Company
Longview, Texas

Gentlemen:

We are most pleased with our new Sonoco storage tubes and I know you will be happy to hear how these have helped us.

We find after six months of constant use that these fine tubes leave reduced space needed for storage, simplified inventory control, speeded order handling, protection (keeps stock clean) in addition, we find stock clerks very enthusiastic over ease of handling, efficiency in storing.

We would be glad to have you tell others of our good experience with these fine products.

Sincerely,

DENISON COTTON MILL COMPANY

W. D. Munson III, President

WDM:as

Low cost method saves time!

Sonoco Storage Tubes provide convenient unit storage of roll fabrics to save handling time, installation costs and storage space.

The Sonoco Storage Tube method protects fabric from pile crush. It also permits efficient inventory control. Installations can be easily expanded or moved.

Costing far less per unit than wood or metal racks, Sonoco Storage Tubes are available for prompt delivery in any quantity in diameters up to 36″ I.D. and in lengths to meet your needs. Sonoco textile sales engineers have complete information on this product—or, write our nearest plant office.

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Storage Tubes

SONOCO PRODUCTS COMPANY

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Longview, Texas
Akron, Ind.
Phillipsburg, N. J.
Philadelphia, Pa.
Atlanta, Ga.
Brantford, Ontario
Granby, Quebec
Mexico, D. F.

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textile bulletin

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TEXTILE BULLETIN is devoted to the dissemination of information and the exchange of opinion relative to the spinning and weaving phases of the textile industry, as well as the dyeing and finishing of yarns and woven fabrics. Appropriate material, technical and otherwise, is solicited and paid for at regular rates. Opinions expressed by contributors are theirs and not necessarily those of the editors and publishers. ¶ Circulation rates are: one year payable in advance, $1.50; two years payable in advance, $2.00;

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Mr. Cannon Replies To Mr. Kearns

LAST month (P. 41) the BULLETIN carried virtually the full text of a speech made in Charlotte February 22 by Assistant Secretary of Commerce for International Affairs Henry Kearns entitled, "Survival of the Cotton Textile Industry." The most classic reply we've heard to charges made in that hurried address comes from Mr. Charles A. Cannon, president of Cannon Mills Co., Kannapolis, N. C.:

March 10, 1960

The Honorable Frederick H. Mueller
Secretary of Commerce
Washington, D. C.

Re: "Survival of the Cotton Textile Industry," Address of Honorable Henry Kearns, Assistant Secretary of Commerce for International affairs.

Dear Mr. Secretary:

In the course of the above address, your assistant, Mr. Kearns, said the following:

"The Department of Commerce, of course, is the Federal servant of industry. It is our statutory responsibility to foster, promote and develop the foreign and domestic commerce . . . . . of the United States . . . . . We meet this responsibility, in part, by collecting and publishing timely and accurate data, reports, surveys, appraisals and other material which business can use. We take this responsibility seriously."

Cannon

Aside from the fact that Mr. Kearns showed every evidence in his speech of being more interested in the demise rather than the survival of the cotton textile industry, I suggest to you that his speech was in part completely untrue, and that both in the tenor of his remarks and in the information which he quoted he failed utterly in carrying out the stated responsibility of the Department of Commerce as described above. His speech was not calculated to promote domestic commerce in any sense of the word and he certainly was not publishing accurate data in many instances.

I am sending a copy of this letter to Senator Pastore's Subcommittee with the request that they have Mr. Kearns explain the many inaccuracies in this speech which I feel led to erroneous conclusions and serious damage to the entire cotton textile industry and the hundreds of thousands of employees working therein. I further request that you submit this letter to your Advisory Committee on Textiles to which Mr. Kearns referred in his speech.

In order to present to you this indictment of Mr. Kearns' statements and conclusions, I will quote from his speech and comment on the inaccuracies, distortions and unethical uses or percentages found therein. Since the major damage by his statements was done in the reports contained in the public press, my quotations will be from the copy of his speech released to the press by your department at noon, Monday, February 22, 1960.

From page 3 of this press release, paragraph 1, I quote Mr. Kearns as follows:

"While the total cotton system spindle population of the nation was declining generally after its all-time high in the '20s, the spindle population in the South was rising. The proportion of spindles in place located in the South increased from 47% in 1925 to 76% in 1945 . . . . . Today, 91% of the spindles in place are located in the cotton-growing states."

These dramatically rising percentages are calculated to leave the impression on the hearer of a substantial rise in the spindles in place in the South, particularly when coupled with his comment that the spindle population in the South was rising. Actually, the cotton spindles in place in the South did increase between 1925 and 1945, but by only 400,000 spindles—from 17,700,000 to 18,063,000, an increase of a mere 2.05%. However, the active spindles during this time decreased from 17,200,000 to 16,762,000 or a decline of 2½%. By his deceptive use of the percentages of the total spindles located in the South, Mr. Kearns left an implication of dramatic growth, while the true story is actually the dramatic decline in the total cotton system spindle population in the U. S., which dropped from 37,-

800,000 in 1925 to 23,800,000 in 1945 or a decline of 37%.

Mr. Kearns has attempted to give the history of the cotton textile industry in the world for some 200 years. He has attempted to show the producing capacity of the U. S. over a period of 35 years. However, as we will see later, when it came to trying to show the value of the textile stocks, he limited himself to 1957, 1958 and 1959. I think, therefore, it would possibly be of interest to see what happened to the installed capacity during these same years 1957, 1958 and 1959.

The spindles in place in the U.S. on December 31, 1956, was 21,553,000; on December 31, 1959, 20,111,000, or a decrease of 1,442,000, or 6.7%. The active cotton spindles in place in the U. S. on December 31, 1956, was 18,736,000; on December 31, 1959, 17,709,000, a decrease of 1,027,000, or 5.5%.

The cotton spindle population in the South on December 31, 1956, was 18,952,000; on December 31, 1959, 18,369,000, a decrease of 583,000, or 3.1%. The active cotton spindles in the South on December 31, 1956, was 16,802,000; on December 31, 1959, 16,429,000, a decrease of 373,000, or 2.2%.

This decline apparently accounted for an additional 37,000 American workers losing their jobs during this period.

From page 4 of this speech, in the middle of the page, I quote Mr. Kearns again:

"Now, how did this fabulous rise in imports affect stock prices? Let's look at the 1957, 1958, 1959 highs for several leading cotton textile producers . . ."

Mr. Kearns then quoted what purported to be the highs for the three years for seven textile stocks, one of which was as follows:

"Cone Mills rose from 14¾ to 16⅛ to 29⅞."

There is no record of Cone Mills stock selling at 29⅞ at any time during the three years mentioned and on February 19, 1960, the last business day before Mr. Kearns made his speech, Cone Mills stock closed on the New York Stock Exchange at $16⅞ per share. This, of course, is not the 1959 high or 1959 price but it is certainly the most timely and accurate data on the status of this particular mill stock and it would have required no effort other than picking up the morning paper to obtain this information. In quoting this price rise in the stocks of seven textile companies, Mr. Kearns was trying to give an impression of an unprecedented and continuing boom. He carried this further by quoting from the *Wall Street Journal* of March 30, 1959:

"Textile companies which tumbled into recession long before most U. S. industries also are among the front runners in recovery . . . . . this has brought . . . . . production speed-ups, bulging order books—and rising earnings."

Mr. Kearns does not hesitate to use figures and quotations from any particular date to prove his points. However, he carefully abstained from following through on his consideration of the value of textile stocks. Mr. Kearns quoted Burlington Industries' high at $26¼; on February 19, 1960, it was $21¼. He quoted Cannon Mills' high at $69; on February 19, it was $57¼. As mentioned, he quoted Cone Mills' high erroneously at $29⅞; on February 19, it was $16⅞. Dan River's high was quoted at $19¼; on February 19, it was $15⅝. J. P. Stevens' high was reported at $34⅞; on February 19, it was $30. United Merchants and Manufacturers' high was given at $21¾; on February 19, it was $17⅝.

Mr. Kearns requested his listeners to especially listen to his quotation of Reeves Brothers' stock with a reported high of $41⅜, but on February 19, it had fallen to $24¾.

Mr. Kearns followed this bit of misleading information with the following statement:

"Clearly, the increasing volume of imports had no apparent effect—on stock prices."

Since something has had pronounced effect in the months since he apparently last looked at this industry with which he is so concerned, would it be reasonable for us to say that clearly the increasing volume of imports *has* depreciated stock prices?

Actually, these considerable fluctuations would indicate to any student of economics that the industry was not enjoying any prolonged period of stable and prosperous operation. A report by the Federal Trade Commission in the third quarter of 1959 shows that on the scale of 20 industries covering a wide variety of products in the U. S., the textile industry is competing for the low percentage of earnings when compared to other industries.

I submit to you that an honest appraisal of the value of the cotton textile industry stocks for this period—1957, 1958 and 1959—would show that the stock prices of many of the textile companies at their lows were so depressed that their relative position resembled more the depression years of the '30s than the prosperous year of 1959. One well known textile stock sold during this period from $7 to $8 per share below its net quick assets.

The stock of another of the companies used in Mr. Kearns' statement sold during this period at such a low price that if all the common stock of the company had been purchased at this price, the company could have been liquidated, paid off its preferred stock, all of its indebtedness, all of the common stock at the market price and left money in the bank with more than $60 million of net depreciated plant value at no cost to the purchaser.

This, Mr. Secretary, does not indicate a prosperous, expanding and healthy industry by any stretch of the imagination.

From the second paragraph of page 2 of this speech, I quote Mr. Kearns:

". . . . . expanded fairly steadily throughout its history into the 1920's; and despite the cries of alarm, the British textile industry prospered for these 200 years."

If I used statistics with as little regard for the facts as Mr. Kearns' speech indicates he uses them, I would add that England's position as a world power declined, as their textile industry declined, since 1920.

On page 5, paragraph 7, Mr. Kearns says:

"In 1959, the textile mill products industry employed some 963,000 workers. Each year, about 4½ million Americans derive a livelihood from some form of foreign trade."

I have no idea what this paragraph means. If Mr. Kearns tried to show that he is going to sacrifice the 963,000 employees in the textile industry for the benefit of some 4½ million Americans living on foreign trade, and if this is the policy of the Department of Commerce, the textile employees and employers of the U. S. are entitled to be so advised.

Attached to this letter are excerpts from the *Congressional Record* of February 24, 1960, pages 3057-3068, reporting a speech by Senator Thurmond, supported by Senators Talmadge, Holland, Pastore, Ervin, Saltonstall, Russell, John-

ston, Jordan, Byrd and Sparkman. Included in this speech on page 3058 was the following, by Senator Pastore:

"The textile industry in 1947 employed 1,325,000 workers. By 1957, the number had been reduced to about 1,000,000. In other words, during a period of ten years, the textile industry lost 325,000 jobs. That was during a time when the United States had shown a phenomenal growth in gross national product."

From the *Congressional Record*, February 24, page 3063, Mr. Pastore speaking:

"There was a time when we were told 4 million American workers would be needed to produce and service American products which would be sold abroad . . . . . Today, that picture has changed."

The Senator seems to be using somewhat the same figure that Mr. Kearns used so far as numbers are concerned, but his emphasis is entirely different from Mr. Kearns' conclusions, which are so unfavorable to relief for the textile industry.

On page 3063, Mr. Pastore, in discussing the Japanese situation, makes the following statement in the *Congressional Record*:

"I made a forceful speech to him (Mr. Kearns) . . . . . I said that such action would kill American industry. I said that Japan's proposal would hurt the textile industry in America."

And again on page 3063 Mr. Pastore says:

"I felt reassured when six months after that he made to the Japanese the same speech which I made to him in my office. He said, in effect, that the time had come when Japan could destroy the very instrumentality which was intended to help Japan—the strong economy of the United States."

It is alarming to think that this individual (Mr. Kearns) reassured the chairman of the Textile Subcommittee of the Committee on Interstate and Foreign Commerce with the statement that he had advised Japan that they (Japan) could destroy the very instrumentality which was intended to help Japan by destroying the strong economy of the U. S., and then to have a speech delivered by the same man in the heart of the textile industry, showing no understanding of the problems of the workers and the future of the industry.

From page 6, paragraph 6, of his speech, I quote Mr. Kearns:

"You can't buy if you don't sell, and you can't sell if you don't buy."

This amazing statement follows several paragraphs in Mr. Kearns' report in which he speaks of the dependence of the U. S. on imports for many items, referring among others, to rubber, shellac, opium, ipecac, rotenone, mahogany, natural pearls, coffee, bananas, extra long staple cotton. I know of no restriction on our country's buying the above items if we do not sell to these particular countries. Apparently, Senator Byrd agrees with this, and I refer you to his statement in the *Congressional Record* of February 24, page 3065:

"But the program should be reciprocal. This country should get the advantage of trade with other countries coincidentally with the importations that come into this country.

". . . . . I want to say, as chairman of the Finance Committee, which has jurisdiction of this matter, it is a question of deep concern, both to the chairman and the members of the committee."

I again request an explanation of Mr. Kearns' statement:

"You can't buy if you don't sell, and you can't sell if you don't buy."

In the third paragraph of page 6, Mr. Kearns says:

"Imports provide the U. S. cotton textile industry with sizeable proportions of its extra long staple cotton.

"I must say that I was somewhat amused last year when several cotton textile producers appeared before the Tariff Commission to

oppose the increased tariff on extra long staple cotton which the domestic cotton growers were seeking. That tariff increase, incidentally, was not granted."

Apparently, Mr. Kearns is much easier to amuse than he is to inform. The producers of this extra long staple cotton were not asking for a tariff increase but for a reduction in the import quota on this cotton. The great majority of the cotton textile manufacturers, incidentally, did not oppose this request.

Actually, there is a quota on all cotton coming into the U. S., upland and extra long staple. The quota for extra long staple cotton opens on August 1, the beginning of the cotton year, and on August 1, 1959, the entire amount to come into this country for this season was tendered and admitted. No additional extra long staple cotton will be allowed to come into this country until August 1, 1960.

The U. S. Government has encouraged during the past several years the growth of this special kind of extra long staple cotton in this country since in time of emergency without this American production we would be utterly dependent on imported cotton for this requirement. Much of this long staple cotton grown in foreign countries has been moving in recent years to Communist areas and the American production is considered essential for use in time of emergency.

Again from page 6 of Mr. Kearns' speech, next to the last paragraph, I quote:

"Pakistan, for example, is a country where 90 million tough, industrious people literally are lifting themselves from the depths of poverty. Their exports account for a large percentage of their gross national product, but their need for foreign exchange is acute."

I again refer you to the *Congressional Record* of February 24, 1960, page 3066, Mr. Thurmond from South Carolina speaking, as follows:

"It would seem that the least that American industries and American workers have the right to expect from their own government is action in protection of their interest. They should not have to rely for that protection on the grace of a foreign nation . . . . . Other countries from which imports increased drastically include Korea, Pakistan, Formosa, West Germany and Switzerland. It should be quite obvious that no voluntary quota system will satisfactorily meet the problem of the increased imports from these many countries . . . . . I refer primarily, of course, to the escape clause procedure established in the Reciprocal Trade Act. The escape clause procedure was designated specifically for the purpose of preventing any domestic industry from being injured by the operation of the program."

At this point, I wish to observe that the peril-point which is established under the Reciprocal Trade Act and on which escape clause procedures might be used has been kept a secret from the textile industry. We are advised that there is a peril-point. We have never been able to learn what it was nor how it was arrived at. The textile industry should have this information.

Following the line of reciprocal trade on page 9 of his speech, Mr. Kearns says:

"A firm in Thailand wanted cotton and nylon underwear for men and women on the basis of continuing $5,000 shipment."

Mr. Kearns mentions no possibility of any interest in a trade between Pakistan and Thailand. Reciprocal to him seems to mean that the U. S. accept all foreign goods offered and look up foreign markets, if and when they can be found, and the country to which the goods would be exported; and hope the importing country will release currency to pay for these and allow them to be delivered, which they have not done readily in the past.

From page 10, paragraph 10 of this speech, I quote:

"Very little of the world's commerce moves on price alone."

During the period from August 1, 1958, to March 4, 1959, the U. S. had exported approximately 1,834,000 bales of cotton with an export subsidy of six cents per pound. From August 1, 1959, to March 4, 1960, this country has exported approximately 3,545,000 bales of cotton with an export subsidy of eight cents per pound. The exports are running at about double the rate of last year, yet Mr. Kearns says the price has nothing to do with it. I submit that the foreign production of cotton and the foreign consumption of cotton has steadily increased over the past few years. Therefore, I have requested Mr. Kearns explanation as to why an increase in the export subsidy from $30 to $40 per bale has doubled our exports if, as he says, "Very little of the world's commerce moves on price alone."

To what extent can an absurd, distorted conclusion go?

On page 7, third paragraph, Mr. Kearns says:

"But these Hong Kong industries are the major source of employment for the two million refugees who have escaped the yoke of Chinese Communism."

And in the next paragraph, speaking of the Hong Kong textile industry, he said further:

". . . . . I firmly believe that they have the full capacity to produce all the cotton garments they are shipping to the U. S. And on the basis of thorough investigations conducted by agencies of our government, I can say that we have not found one bit of proof that communist textiles are being transshipped through the Colony to the U. S."

Mr. Kearns, who speaks of himself as Assistant Secretary of Commerce for Textiles, seems to be perfectly willing to export 325,000 or more jobs from the U. S. and then plead that the goods which are taking the place of them are not coming from communist countries, but the fact that he finds 2,000,000 refugees who have escaped the yoke of Chinese Communism in Hong Kong shipping millions of dozens of shirts and millions of yards of greige goods into this country doesn't seem to bother him at all.

Mr. Secretary, the speech and the attitude of Mr. Kearns in Charlotte is unbelievable.

With this industry furnishing the greatest number of jobs in a three or four-state area, this man to whom has been entrusted the job of dealing with foreign countries to protect the textile industry shows a profound lack of understanding of any of the problems of the textile industry, a hostile attitude to the American workman, and makes deceitful statements to our Senators who are concerned with the problems of the textile industry.

I submit that the controversial statement by Marie Antoinette when the people cried for bread and she was supposed to have answered "Let them eat cake" may not have been true. It is true that Mr. Kearns came to the City of Charlotte knowing he was going to make a very controversial speech. He so announced at the opening of his remarks. He guillotined any hope that the textile industry had of relief from foreign textiles through the Department of Commerce. He fled the City of Charlotte by airplane, with no explanation of his untrue, distorted, hostile attitude to the textile employees, the textile industry, and the people he was supposed to be representing. How does this contribute to Mr. Kearns' announced subject: "Survival of the Cotton Textile Industry"?

Very truly yours,

C. A. CANNON

Index to Advertisers

TEXTILE INDUSTRY SCHEDULE

April 1 (F)—Spring meeting, **SOUTH CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Easley High School, Easley, S. C.

Apr. 7-9 (Th-Sa)—Annual meeting, **AMERICAN COTTON MANUFACTURERS INSTITUTE**, Americana Hotel, Bal Harbour, Fla.

Apr. 20-21 (W-Th)—Annual meeting, **ALABAMA TEXTILE MANUFACTURERS ASSOCIATION**, Buena Vista Hotel, Biloxi, Miss.

April 23 (Sa)—Spring meeting, **NORTHERN NORTH CAROLINA-VIRGINIA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, Morehead High School, Spray, N. C.

Apr. 26-27 (Tu-W)—Technical Advisory Committee meeting and Board of Trustees meeting, **INSTITUTE OF TEXTILE TECHNOLOGY**, Charlottesville, Va.

Apr. 29-30 (Th-Sa)—The 59th annual convention, **PHI PSI FRATERNITY**, Hotel Roosevelt, New York City.

April 30 (Sa)—Spring meeting, **EASTERN CAROLINA DIVISION, SOUTHERN TEXTILE ASSOCIATION**, N. C. State College, Raleigh.

May 2-13—Short course, **STATISTICAL QUALITY CONTROL**, School of Textiles, N. C. State College, Raleigh.

May 4-5 (W-Th)—Open House, **A.C.M.I. FIBER TESTING LABORATORY**, The Clemson House, Clemson, S. C.

May 7 (Sa)—Spring meeting, **ALABAMA TEXTILE OPERATING EXECUTIVES**, Thach Auditorium, Auburn University, Auburn, Ala. (Slashing and Weaving Section).

May 11-14 (W-Sa)—Annual outing, **CAROLINA YARN ASSOCIATION**, Pinehurst, N. C.

May 19-21 (Th-Sa)—The 60th anniversary meeting, **GEORGIA TEXTILE MANUFACTURERS ASSOCIATION**, Diplomat Hotel and Country Club, Hollywood, Fla.

May 23-27 (M-F)—**AMERICAN TEXTILE MACHINERY EXHIBITION**, Atlantic City, N. J.

May 26-28 (Th-Sa)—Annual meeting, **SOUTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, The Cloister, Sea Island, Ga.

May 31-June 2 (Tu-Th)—11th Annual **COTTON RESEARCH CLINIC** (sponsored by The National Cotton Council), Grove Park Inn, Asheville, N. C.

June 6-17—Short course for **EXECUTIVES OF THE TEXTILE INDUSTRY**, School of Textiles, N. C. State College, Raleigh.

June 23-25 (Th-Sa)—52nd annual convention, **SOUTHERN TEXTILE ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Sept. 8-9 (Th-F)—Fall technical meeting, **TEXTILE QUALITY CONTROL ASSOCIATION**, The Clemson House, Clemson, S. C.

Sept. 8-9 (Th-F)—Annual meeting, **COMBED YARN SPINNERS ASSOCIATION**, The Cloister, Sea Island, Ga.

Sept. 15-16 (Th-F)—Textile Processing Symposium, **AMERICAN GAS ASSOCIATION**, Sedgefield Inn, Greensboro, N. C.

Sept. 15-16 (Th-F)—Annual outing, **CHATTANOOGA YARN ASSOCIATION**, The Read House, Chattanooga, Tenn.

Sept. 27-28 (Tu-W)—The ninth annual **CHEMICAL FINISHING CONFERENCE**, sponsored by the National Cotton Council, Statler Hotel, Washington, D. C.

Sept. 28-30 (W-F)—Annual meeting, **NORTH CAROLINA TEXTILE MANUFACTURERS ASSOCIATION**, Carolina Hotel, Pinehurst, N. C.

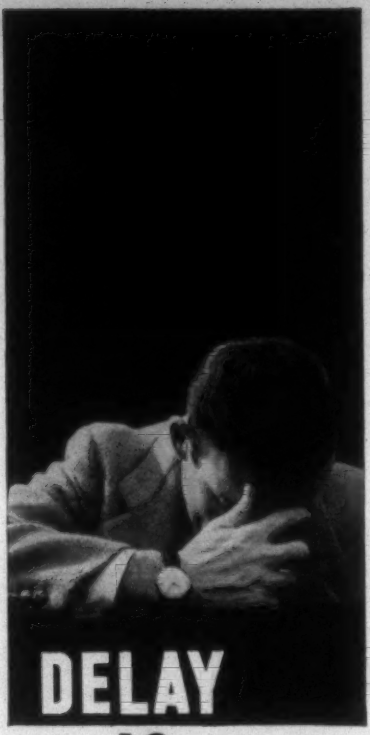
Oct. 3-8 (M-F)—The 21st **SOUTHERN TEXTILE EXPOSITION**, Textile Hall, Greenville, S. C.

Oct. 18-21 (Tu-F)—Fall meeting, **COMMITTEE D-13, A.S.T.M.**, Sheraton-Atlantic Hotel, New York City.

Oct. 19-22 (W-Sa)—Annual meeting, **CARDED YARN ASSOCIATION**, The Grove Park Inn, Asheville, N. C.

Nov. 12 (Sa)—Annual meeting, **GEORGIA TEXTILE EDUCATION FOUNDATION**, A. French Textile School, Georgia Tech, Atlanta.

(M) Monday; (Tu) Tuesday; (W) Wednesday; (Th) Thursday; (F) Friday; (Sa) Saturday



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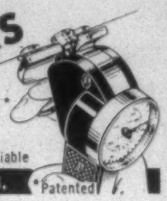

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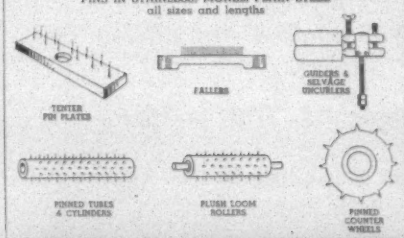

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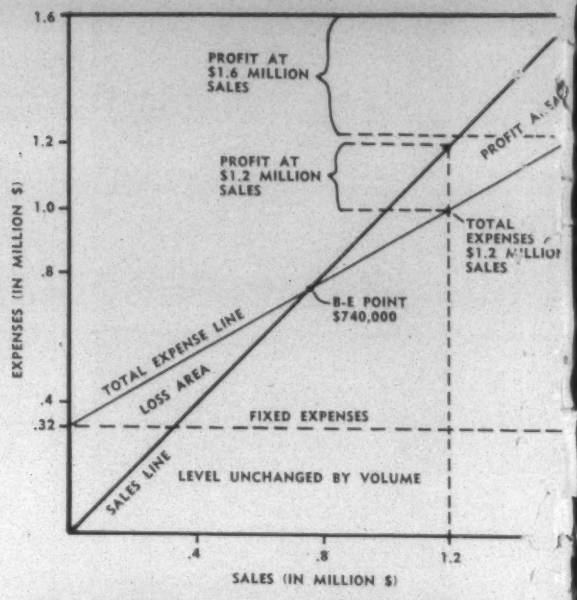
VOL. 86 APRIL 1960 NO. 4

This issue of TEXTILE BULLETIN . . .

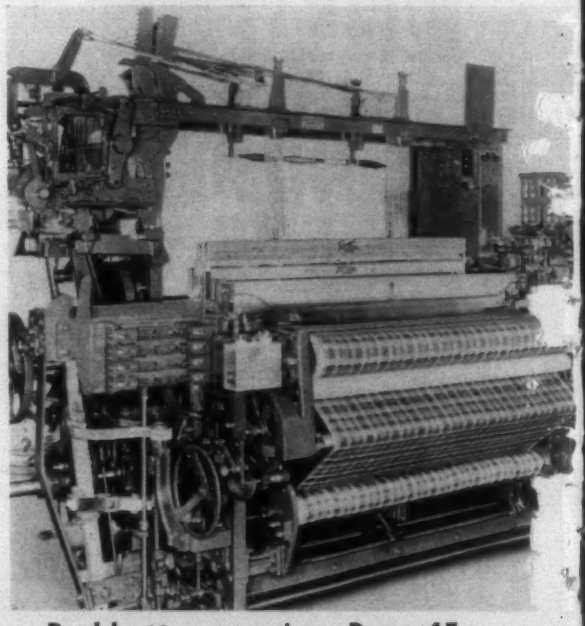
. . . features

. . . and includes

TEXTILE BULLETIN solicits appropriate material from contributors, with payments made at regular space rates. Material should be addressed to The Editors, P. O. Box 1225, Charlotte 1, N. C.



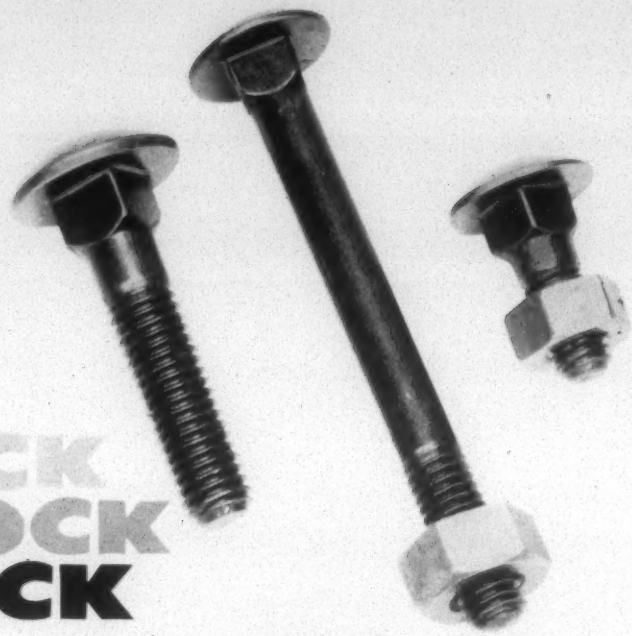
The break-even point, Page 35



Pushbutton weaving, Page 45

Upgrading at Opp, Page 57

the most DURABLE loom bolt!



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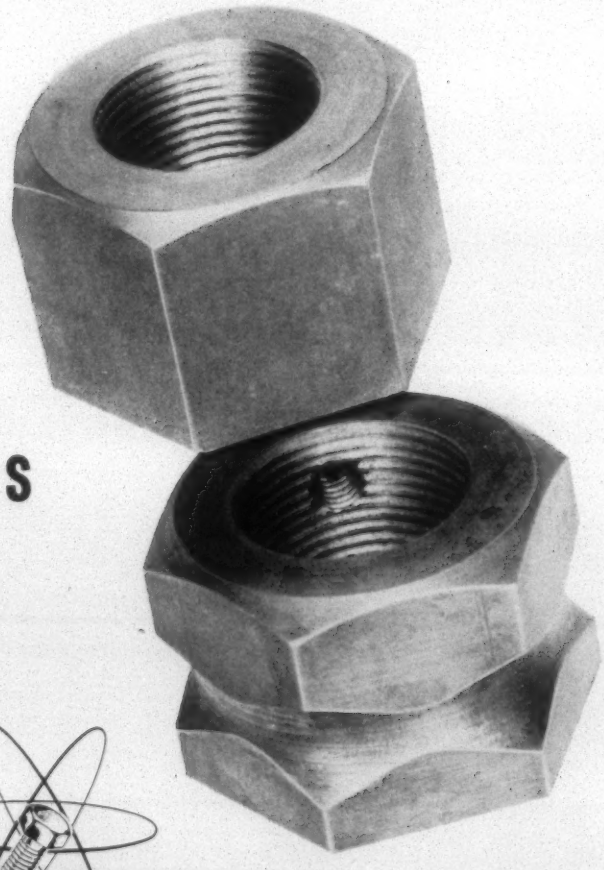

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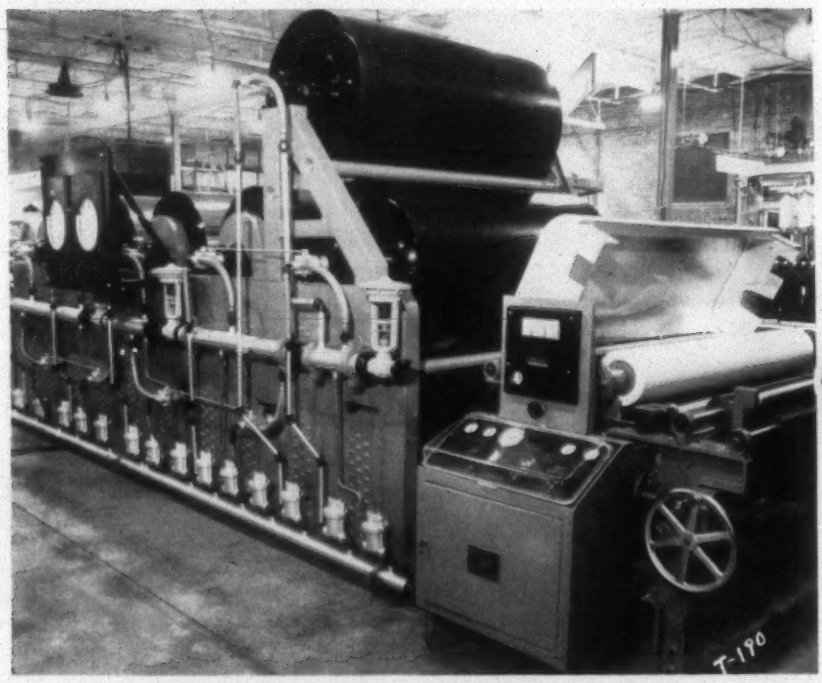

GRIFFIN SIZE APPLICATOR in position with multi-cylinder dryer.
Patents No. 2,698,983; No. 2,698,985; No. 2,763,912;
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